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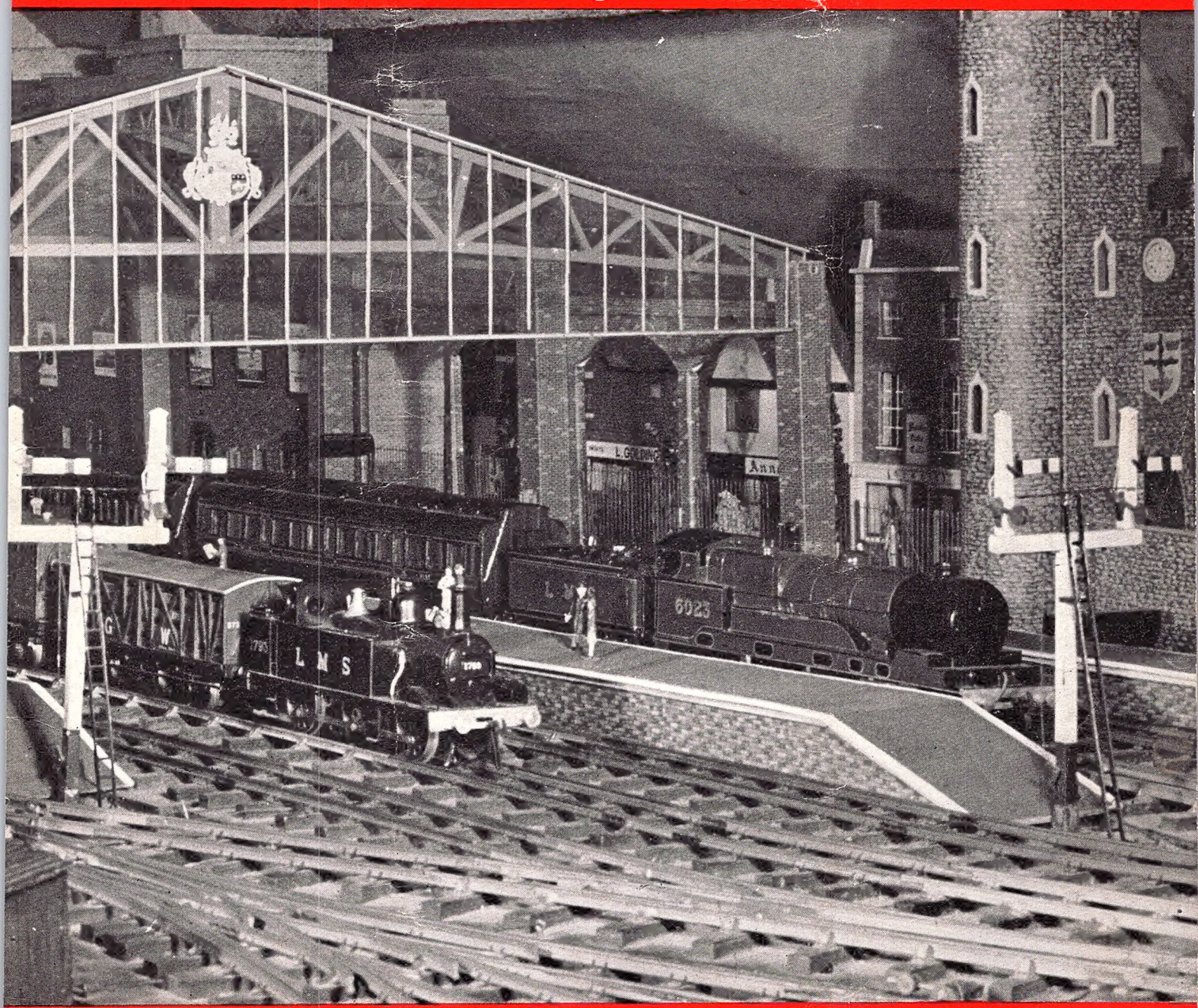

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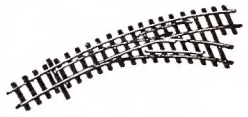

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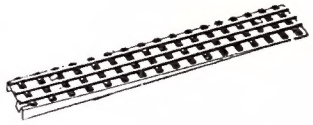

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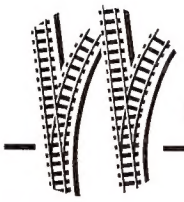

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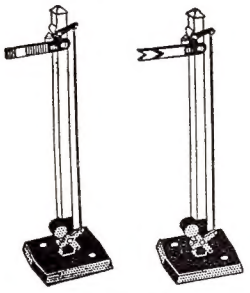

Single arm
3/–

These remarkably fine little scale models are now being distributed to the trade as fast as they come off the production line and you should now be able to examine and purchase them from your local dealer. Everyone interested in "TT" should ask to see them. They are made to 3mm. scale and are designed for hand operation but provision is made for remote control from a signal box when used on permanent layouts.
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3/9

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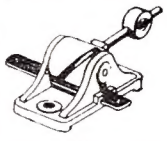

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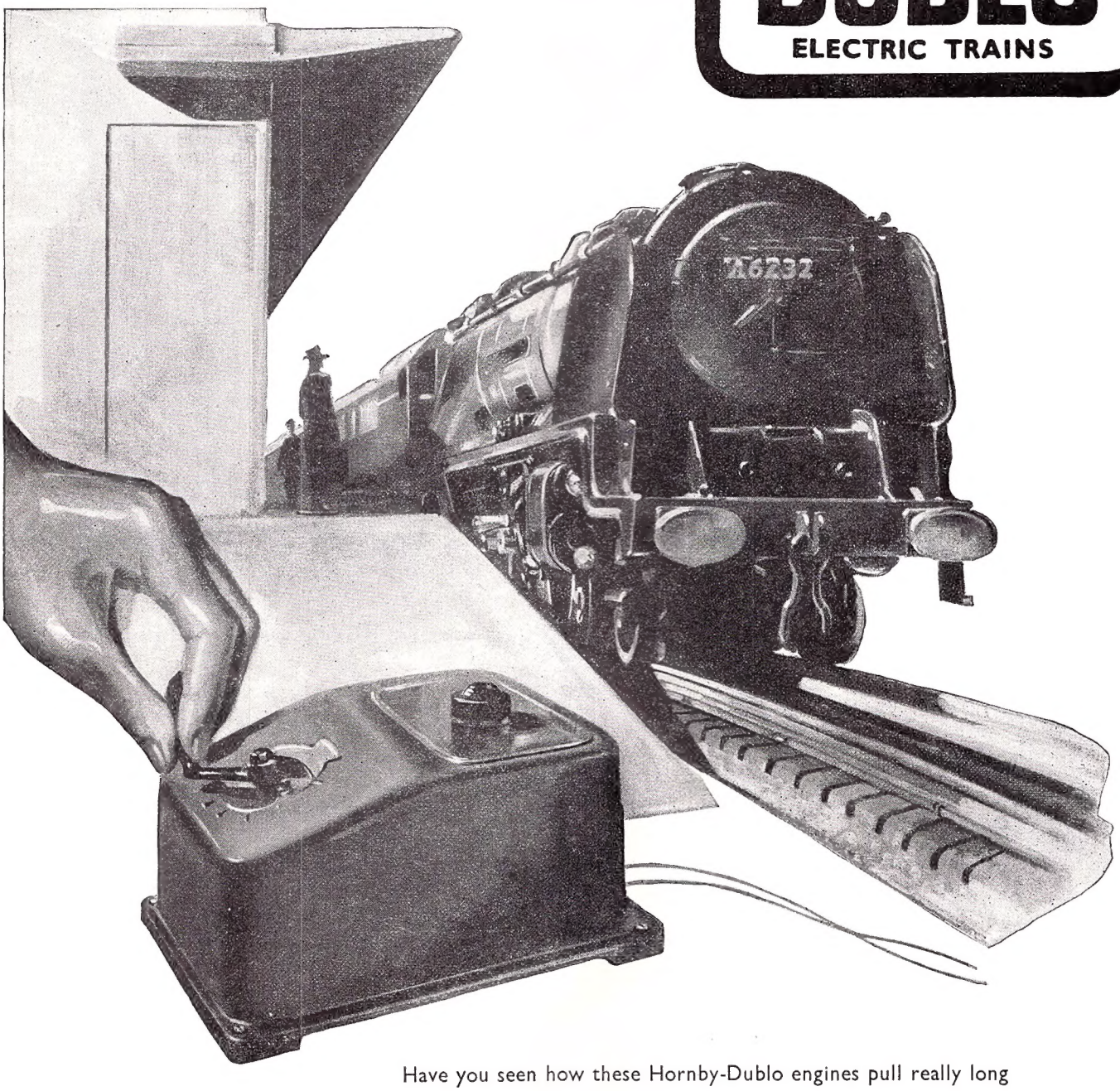

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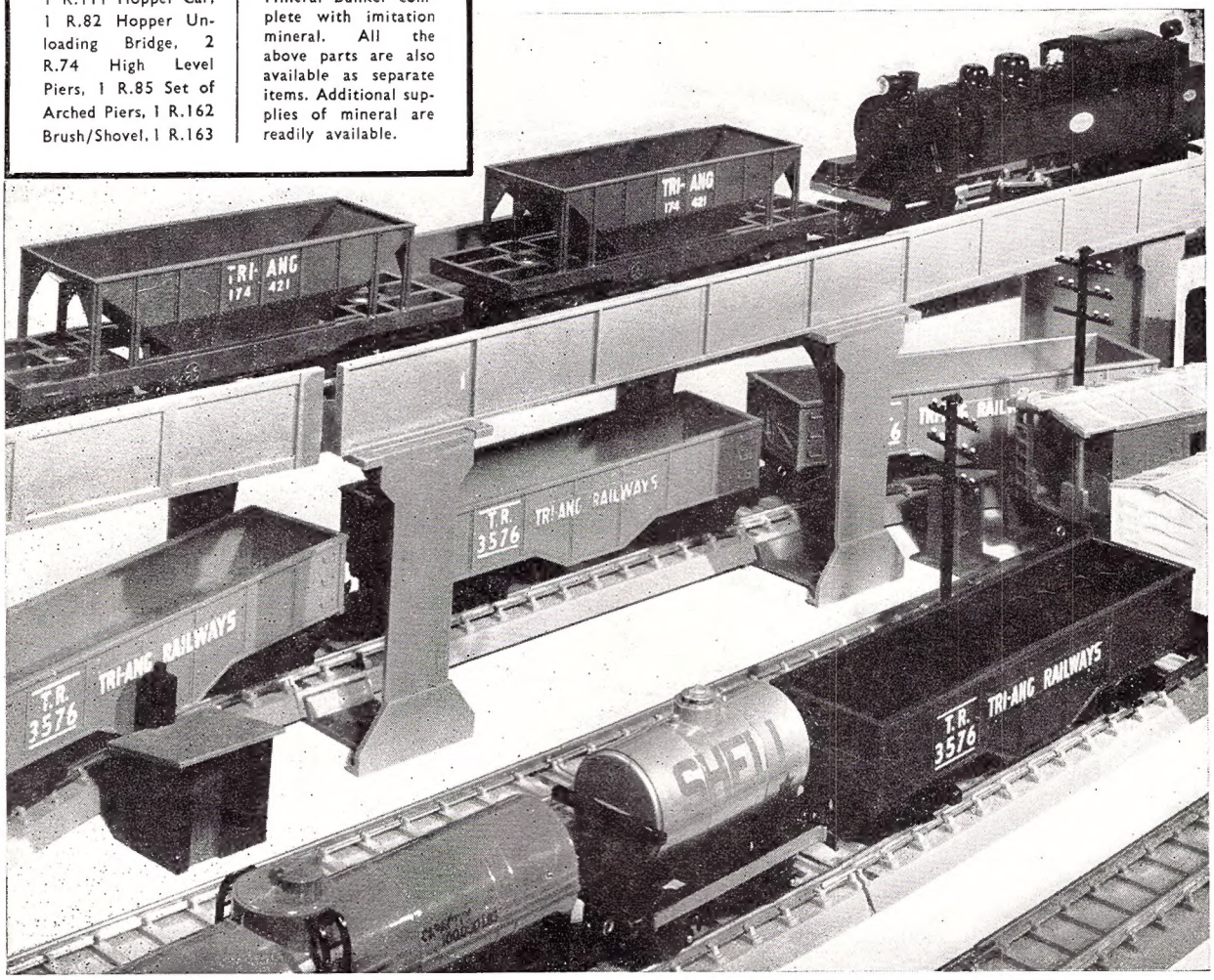

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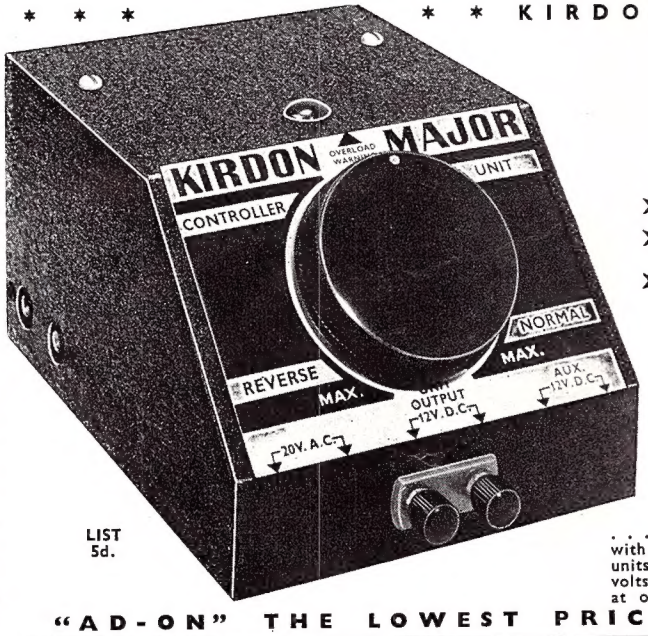

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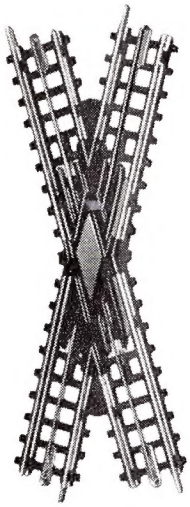

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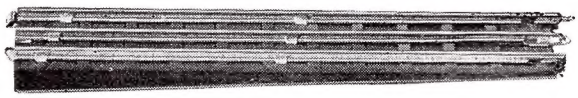

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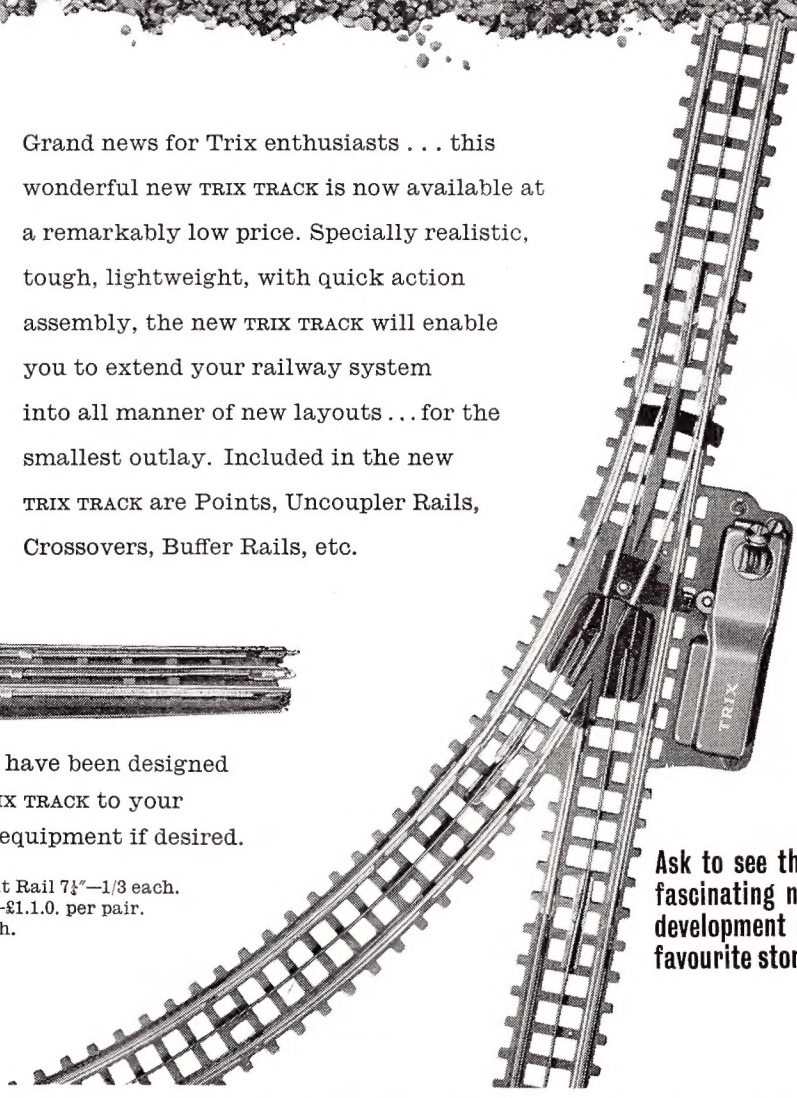

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The Lobby

EXHIBITION TIME AHEAD

FROM now until next Easter exhibitions will be occurring at frequent intervals, the winter season starting, as always, with the Model Railway Hobby Show, which opens in a month's time at the Central Hall, Westminster, from September 26 to October 2, the show being closed on Sunday, September 29. This year there will be working layouts in the three main gauges, "O," "OO" and "TT-3," plus plenty to interest the enthusiast on the trade stands. Further details will be given next month in our Hobby Show number, which will be published on September 25.

The same time will see the Nottingham club's show, which opens on the 25th and closes on the 28th. Midland readers should make a special note. Details of both these exhibitions are additionally to be found in our advertisement pages.

At 2 p.m. on September 14, at the Northolt Village Community Centre, the Northolt club will be holding its exhibition. Several other clubs and the Talyllyn Railway Preservation Society will be participating.

MORE NEW CLUBS

The club movement is growing apace, and further new societies are in process of formation. Readers in or near Malvern should contact Mr. W. A. Mann, The Wyche Gate, 26 Old Wyche Road, Great Malvern, while interested parties in the Rutherglen (Glasgow) area should get in touch with our G.N.S.R. expert, J. A. N. Emslie, 83 Viewpark Road, Rutherglen, Glasgow, on a postcard marked R.M.R.S. bearing their name and address.

SAVE THE IRISH RAILWAYS

Readers will doubtless be as shocked as we were to hear that it is proposed to abandon over fifty per cent of Eire's railway system. Against this the odd branch line closure pales into insignificance. Needless to say, there is strong opposition to this fantastic dismemberment, and the "Save Our Railways Association" has been founded to combat it. The subscription is 5/-, and should be sent to the hon. secretary, Mr. C. Creedon, 6 Auburn Villas, Magazine Road, Cork.

"TT-3" *IS HERE*

There is no doubt that the RAILWAY MODELLER special "TT" article featured in our issue for last March has aroused considerable interest and that the new "TT" is now not only here but by all accounts being developed in a very big way. We are also pleased to see that our suggested term for the 12mm. gauge 3mm. scale ratio has also caught on. Among the converts to 3mm. is R. G. Bryant ("Dormouse" to his friends), who is leaving the intricacies of 2mm. scale for the larger yet still compact scale. We feature this month one of the earliest layouts in the new scale to reach a stage of completion, while from the state of our postbag and article file there is no doubt that we shall be publishing plenty on 12mm. gauge in the immediate future.

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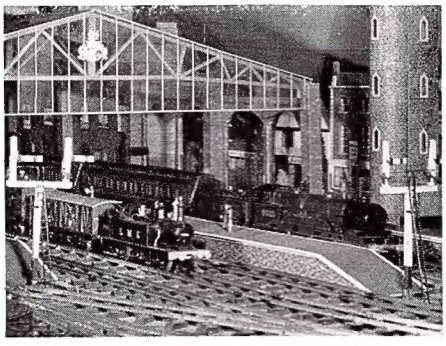

COVER PICTURE

The glistening new roof that now covers Nottingham Castle station, the principal terminus of the Sherwood Section, forms the main feature of this month's cover (photo by Philip J. Kelley).

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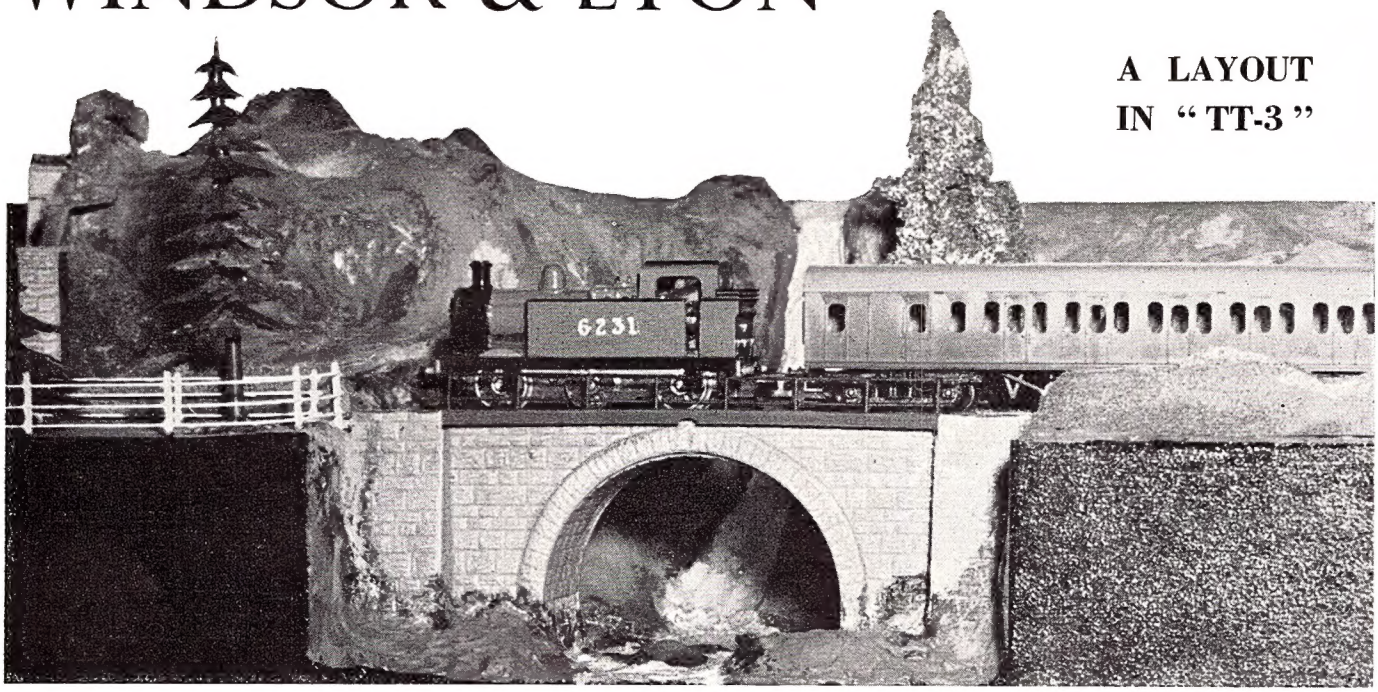
That it shall not without the written consent of the publishers be lent, resold, hired out, or otherwise disposed of by way of trade, except at the full retail price of 2/-, and that it shall not be lent, resold, hired out, or otherwise disposed of in mutilated condition, or in any unauthorized cover by way of trade, or affixed to as part of any publication or advertising, literary or pictorial matter whatsoever.

Railway of the Month

WINDSOR & ETON

A LAYOUT IN "TT-3"



Crossing the bridge.

by George V. Mitchell

WHEN Tri-ang anounced their "TT" equipment earlier this year many railway modellers must have thought that their pipe dreams had come true. At last here was a system which offered reliability, good appearance, and the possibilities of decent layout in a small space—at the right price!

Promptly I sold the existing "OO" layout I was operating and started on my "TT" venture. I decided that the basis of this new layout was to be an oval fixed to a baseboard 5ft. × 3ft. with an extension some 4ft. × 1ft. which would carry most of the sidings and a small station. I also wanted to incorporate as much scenery as possible in an endeavour to capture the atmosphere of a small country branch line.

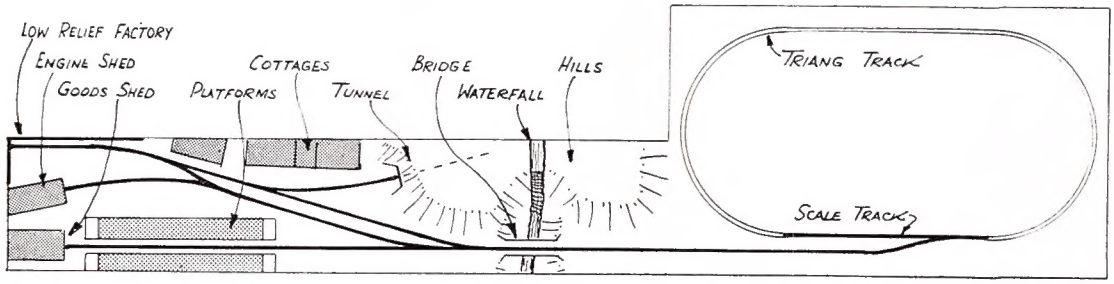
A start was made on the main 5ft. x 3ft. board by using a solid framework of 1in. x 2in. timber, on which the hardboard top was mounted. I cannot stress the importance of ensuring a really solid baseboard—money spent in this direction is well spent.

This baseboard now carries an oval of Tri-ang track, but one side is fitted with a length of Gem track in which a left-hand turnout is incorporated. This leads to the detachable 4ft. x 1ft. extension. Development of the main board has not yet started, all my efforts having been concentrated on the extension.

This consists of 4ft. lengths of 3in. x 1in. softwood adequately braced with cross members. On top is a hardboard patch, which I glued and screwed, using Evostik as the adhesive. This is an impact bonding agent, and being water, oil and heat proof is an ideal medium for the railway modeller. One end of this board is stepped so that provision for a single-span bridge could be made. This bridge is an attractive feature of the line and I think gives it a pleasant "countryside" effect. Behind the bridge a waterfall is incorporated and there is a range of bleak-looking hills through which a tunnel is driven. This tunnel is really a dead end, but it does give the siding which leads into it an effect of length. The hills and tunnel were built up from card and wood offcuts, the whole being covered with Polyfilla, an excellent material for this type of work, as it does not crack or pull away. After the Polyfilla had set I gave it a coating of Croid liquid glue and when dry painted the whole surface in a mixture of green, grey and black poster colours. The tunnel entrance was made from a Vacy Ash "TT" gauge building sheet.

The station buildings are made from similar sheets. Although they are actually for "OO" gauge they are quite attractive and, I think, in keeping with the character of the line. The engine and I glued and screwed, using Evostik as the adhesive. This is an are lined with balsa wood, and all windows are painted over with

PLAN OF LINE (not to scale)



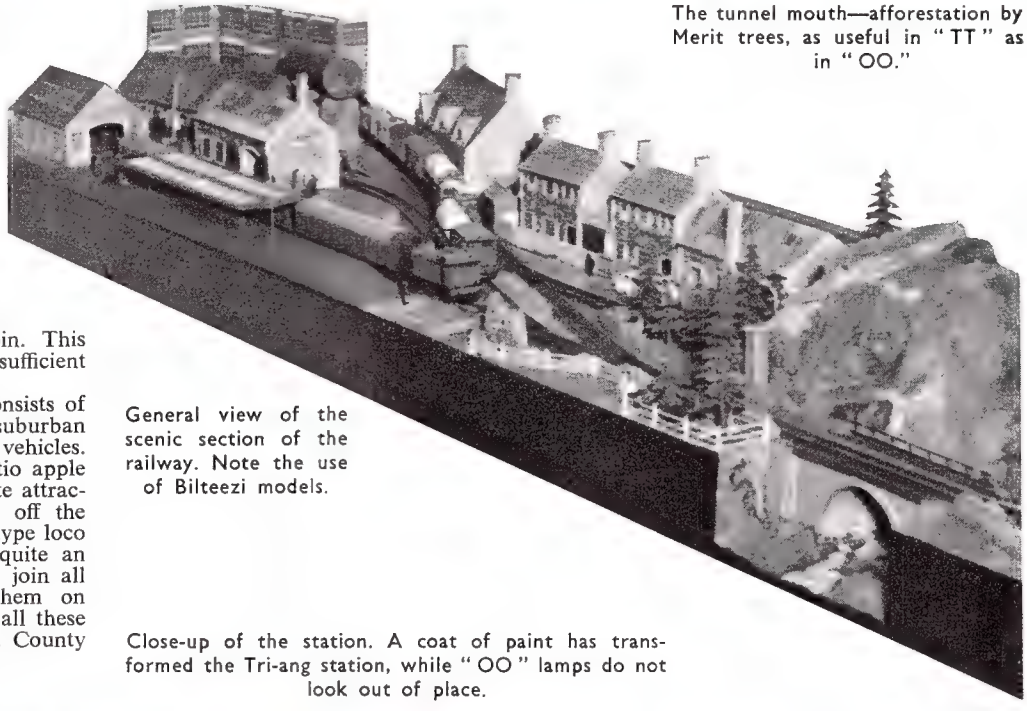
Rustins transparent lacquer. After several coats have been applied the effect is quite akin to actual glass. Up to the time of writing that virtually covers the development of the line, but quite obviously a lot remains to be done.

Dealing with the track, this consists of Gem "TT" ready-made components and is laid on strips of $\frac{1}{16}$in. card. Part of the track is fixed to the board by hammering in Peco brass pins on either side of the rails and then soldering the rail to the pins. This makes a strong, trim job, the solder being quite unobtrusive. A further section of the track is bonded to the baseboard with Evostik and up to the time of writing this has proved to be an excellent medium for mounting track. Being a rubber/resin adhesive, the material does not attack the plastic sleepers. I should add a word of warning however. I would not advise it for use on plastic rolling stock bodies. It incorporates a solvent which might attack the particular plastic with which these components are fabricated. I have noticed that the track clearances with "TT" gauge are tighter than with "OO" and when track is curved the loco wheels tend to bind on the curves. This can easily be overcome by inserting a Peco rail nail in the board near to the inner curve, pulling the rail out slightly and soldering to the pin. This widens the gauge and provides sufficient clearance for the loco flanges.

Rolling stock at the moment consists of two Tri-ang 0-6-0 locos, three suburban coaches and a selection of goods vehicles. One loco has been painted in Ratio apple green and varnished. It looks quite attractive. Eventually I intend cutting off the roof and making at an open-cab type loco —hardly to any prototype, but quite an interesting model! I also plan to join all three coaches by articulating them on common bogies, but I am afraid all these things take time. Also, a G.W.R. County

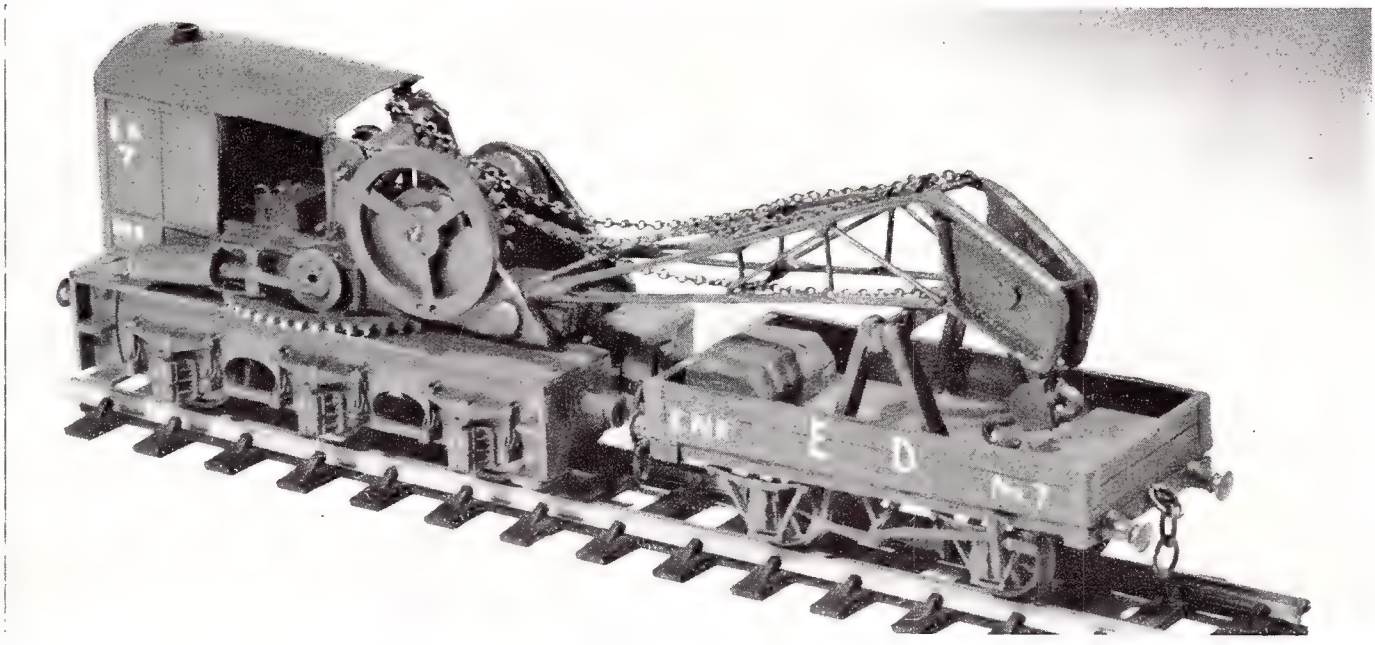
(Continued on page 216)

The tunnel mouth—afforestation by Merit trees, as useful in "TT" as in "OO."



General view of the scenic section of the railway. Note the use of Bilteezi models.

Close-up of the station. A coat of paint has transformed the Tri-ang station, while "OO" lamps do not look out of place.



DO IT YOURSELF No. 20

A "OO" BREAKDOWN CRANE

by D. Scott

WHEN I first decided to add a breakdown crane to my layout it was my intention to follow the design given by Edward Beal in one of his books, but further consideration brought doubts as to the "rightness" of the bogie wagon underframe. Discarding this idea, however, produced the question "How else can it be done?" Now soldering is not one of my favourite pursuits, so the solution had to involve as little metal as possible. After some thought I decided to try to base the model on a Tri-ang express loco tender and build up the body in wood and card as far as possible. The result was the model described below.

The first job was to remove the body of the tender from the underframe. This was not difficult, as the body is cemented to a raised lip all round at footplate level which can be cut with an X-acto knife, the remaining portions of the lip being filed flush and the weighting bar discarded. The wheels and couplings were then removed, the axles of the former being cut, as it seemed likely that the frame would split if they were pressed apart too much. Before fitting scale wheels, a hole was bored in the centre of the base to take the crane pivot and a Peco coupling was fitted at what was to be the "train" end, with a three-link for connecting to the match truck. No difficulty arises from this, as the jib maintains the necessary distance when the vehicles are pushed together. A pair of 12mm. wheels was then fitted at each end, though all three axles could probably be fitted if curves permit. The axles needed a couple of washers to take up the rather excessive side play. A pair of heavy-duty buffers at each end completed the chassis.

The jib was the next step, and after a couple of attempts at an all-wood assembly I had to solder it up from metal. I used some $\frac{1}{16}$in. strip with pins for the braces and each side was built up separately and then assembled, the last sections of each side being filled in with thin sheet brass drilled to take the bearings for the hoisting pulley. The sides were then joined together, again by household pins, and so fixed as to be 14mm. apart at the base and 8mm. at the neck. At the base of the jib were soldered two pins bent to form bearings to allow for the vertical movement (Fig. 1).

The body of the crane consists of a wood base and sides with card additions for the shelter. The base is made of $\frac{1}{8}$in. wood and is 3in. long by 1in. at the widest end tapering to the width of the

Fig. 1.

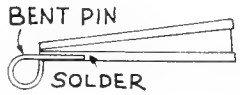
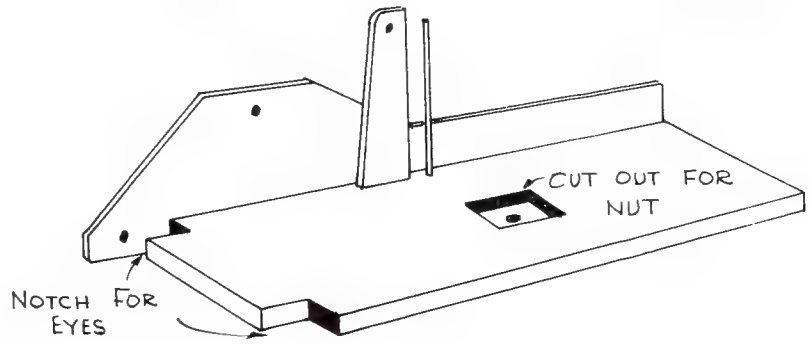
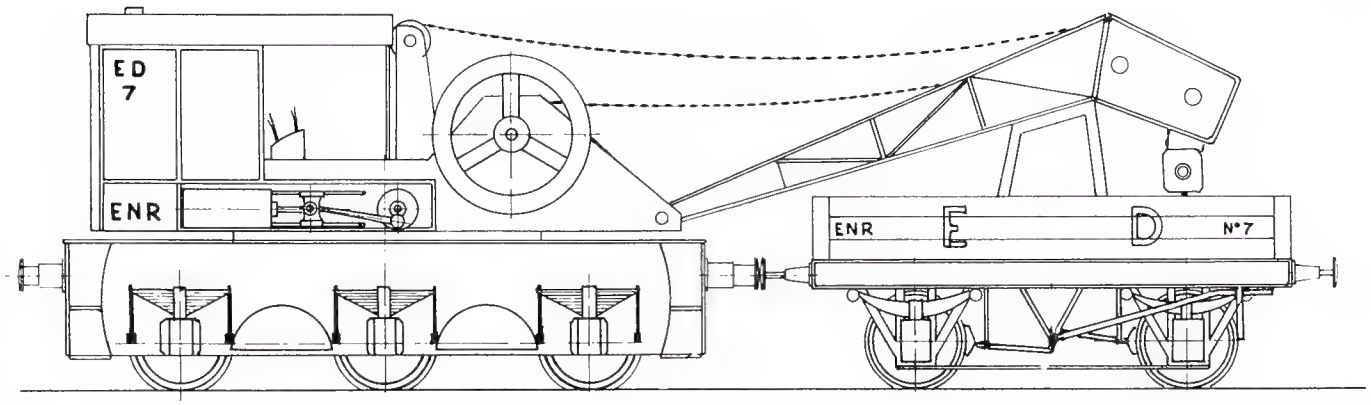


Fig. 2.





jib at the other. Two notches were cut out to allow for the pivot eyes of the jib and a hole was drilled in the centre to take the pivot bolt. The sides were cut from 1mm. plywood and were tacked together while the holes for the winding gear axles were drilled. They were then separated and glued to the base. The bearings for the upper winding drum were then cut out from 1mm. ply and drilled and glued in place. Lastly the wire stanchions for the front of the roof were fixed, being let into the base and glued. The winding drums were built up from oddments including the metal centre of a typewriter eraser and old clock parts. The control levers are merely bent pins glued into a block of balsa wood cemented to the base at the rear of the pivot.

The cab shelter was cut from stiff card, bent to shape and glued to the sides. The inside portions were then given two coats of shellac varnish and the piece of dowel which represents the boiler was glued in place inside the shelter. Finally the roof, made from shellac-coated card, was glued in position and when dry trimmed to fit the curved end, the joints then being chamfered down and the chimney, made from parcel tape, glued on. The wooden sides were then covered in paper to conceal the grain and the cab sides panelled out in parcel tape. The whole unit was then well coated with shellac. The flywheel and piston were next added, the latter being soldered up from a short brass tube and wire. A large clock gearwheel was then fixed to the underside of the base to represent the turntable.

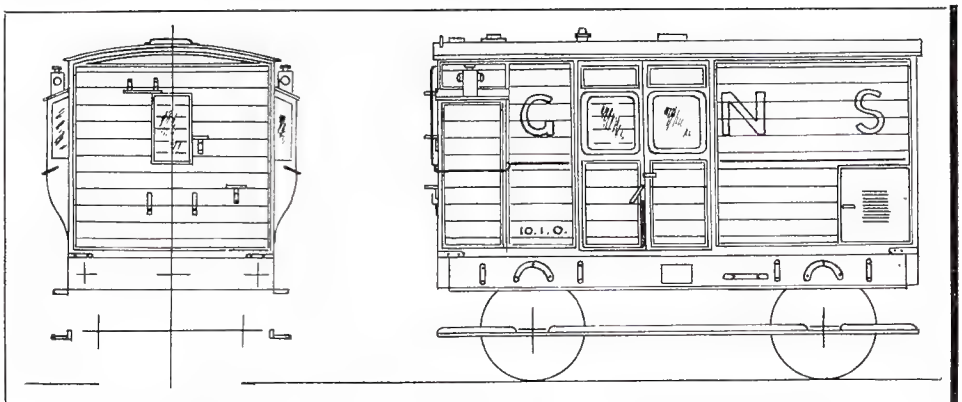
The jib was attached by means of a rod passed through the holes in the sides and the pivot eyes and secured with a spot of glue at each end. Short lengths of fine chain were soldered to the neck of the jib and led back to the upper winding drum and secured. The crane hook was built up from thick wire and two pieces of card glued together. This was attached to another length of chain leading over the jib pulley and secured round the lower drum.

The body was then fixed to the chassis by means of a bolt passed up through the holes in the chassis and base and locknutted in place so as to allow the crane to swing on curves.

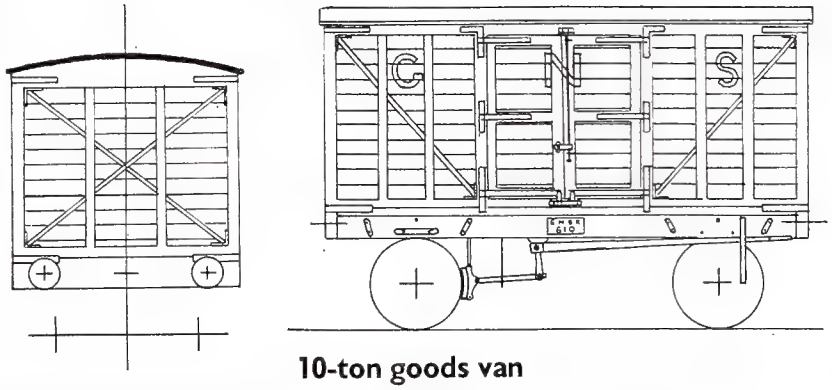
The final job was the construction of the match truck, which does not require description, as it is simply a lowsided wagon with the jib supports and tool boxes added.

When painted dark grey the whole outfit makes an attractive model, especially when marshalled with a pair of old brake vans and placed in a siding near the engine shed.

G.N.S.R. VANS



14-ton brake van



10-ton goods van

Drawings 4mm. scale
by J. A. N. Emslie

CONTROLLING THE NORTH LOMOND RAILWAY

by the Rev. Neil S. Henderson

This extensive "OO" system was described in the RAILWAY MODELLER *for November 1956*

THE average railway modeller owns and operates a layout that has grown from small beginnings, and the snags and problems which have confronted him are usually concerned with the electrical control of his extending line. At first all goes smoothly; the layout and wiring are simple, and on the panel are a controller, a reversing switch, and a few sectional switches. Before long, however, the layout has a double line, a few crossovers, some point motors and electrically operated signals, and on the control panel are another rheostat and a bunch of extra switches. The tyro is now confronted with difficulties he had not foreseen, and these are not all to do with the wiring of the layout—the very controlling of the operations on the line has become complicated. Apart from annoying things like trains suddenly running at half-speed, and "shorts" occurring for no apparent reason, many an operator finds that he is so confoundedly busy with his controls that he has little time to watch his trains; and as for signals, there is no time to bother about them.

A good layout should be a joy to watch *and* a joy to operate. To obtain both these desired results simplicity of control and correct electrical wiring are necessary. This does not mean that the wiring and devices used are of the simplest; but neither does it mean the use of relay switches and train-operated contacts, which so often detract from the fun of operating the railway. Relays, etc., have their useful function in exhibition layouts, but they are not for those whose hobby has sprung from a love of railways and who wish to run their own.

For the desired ease and efficiency of operation, cab control is a "must," and split-potential supply is preferable. If these are in use in a layout, additions and alterations can be carried out with a minimum of disturbance.

On a layout that has grown to considerable proportions the track should be divided into suitable "divisions"—both rails being cut, and the gaps being well staggered (see diagram 1, and note the common leads). "Sections" are those portions of track which it is necessary at times to isolate, and power is fed to them from the track of which they are a section via an ordinary on-off switch.

On the North Lomond the required divisions of the track are switched to a cab by means of push-buttons, not on-off switches or levers, and these buttons are spring-controlled in such a manner that when a division is switched to a certain cab it is automatically removed from any other cab which may have been controlling it (diagram 3). If ordinary switches or levers were employed, that particular setting of the controls would take two or more times as long to make; moreover, the operator could make the mistake of having a division of the track on two cabs at the same time. Gangs of these push-button switches to the number or track divisions in the layout, and containing buttons to the number of cabs required, are much to be preferred to heaps of ordinary on-off switches.

Control panels must, of course, be designed to suit the type of layout, but I have seen many control panels needlessly involved. This is especially so with regard to controls for point and signal motors. There are layouts where track diagrams on the control panels may be desirable, with switches and push-buttons in the appropriate positions thereon, but more frequently the necessary operations can be more quickly and surely carried out when

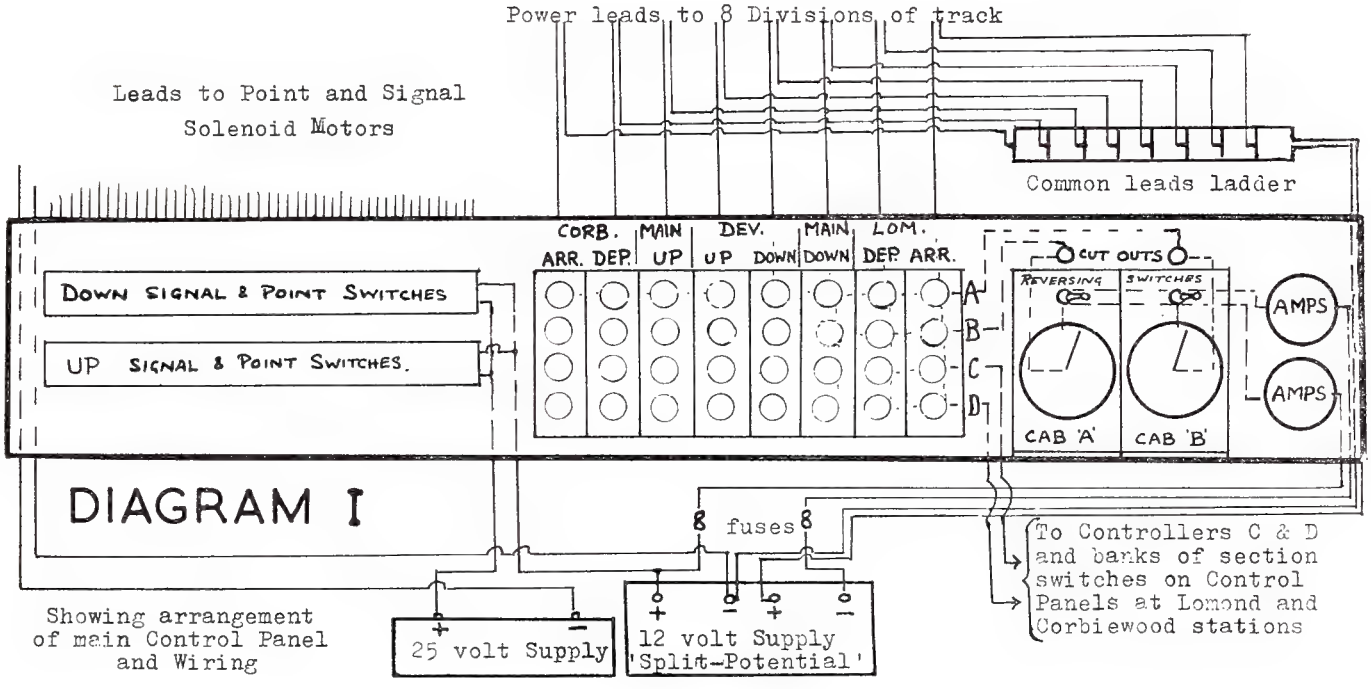
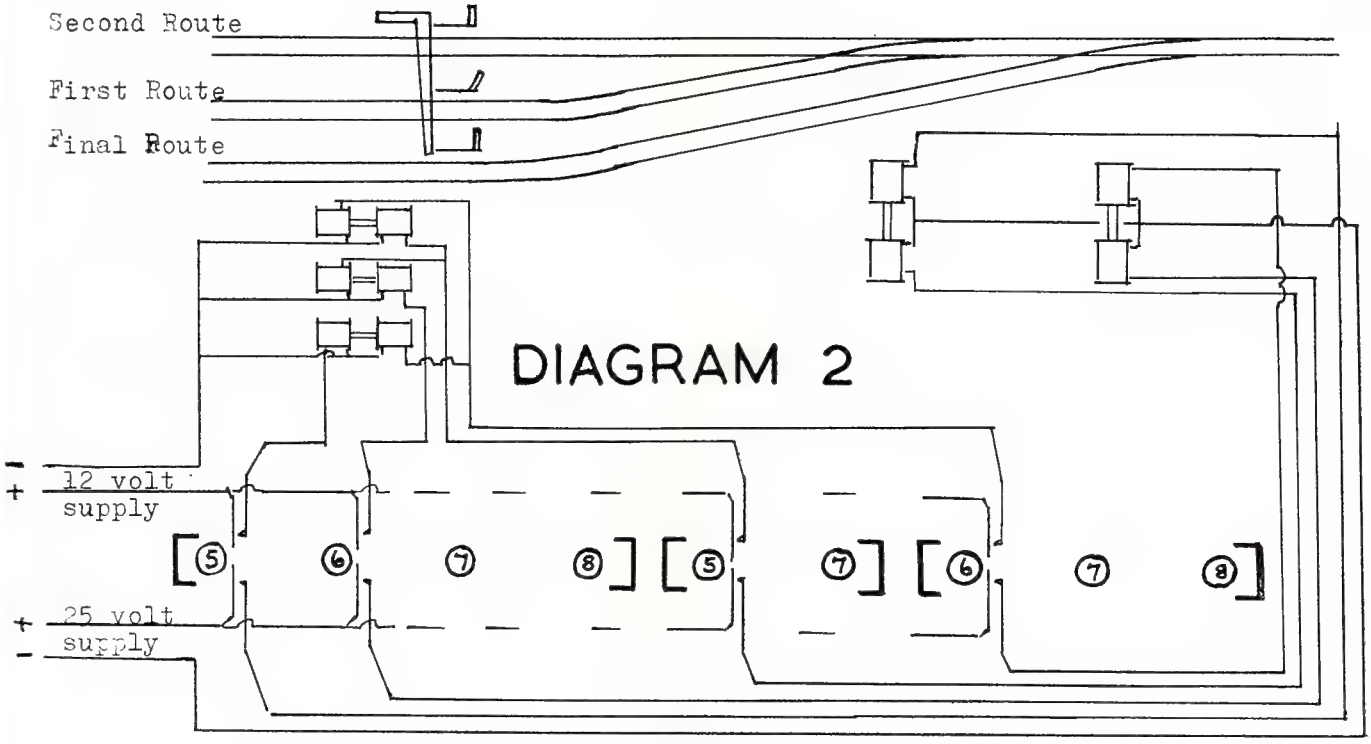


DIAGRAM 1



The push-button switches for the down lines as they are arranged on the control panel, and wiring for points and signals shown. The brackets around the numbered push-buttons indicate the three stages of operation.

the controlling push-buttons are arranged in line and in sequence of operation, even when this may mean additional push-buttons on the panel. It is *not* necessarily desirable to have the two push-buttons controlling a double-solenoid motor side by side on the switchboard.

Signals may be operated separately, automatically by the movement of a train, or be an integral part of some other operation. On the North Lomond, after much experiment, I have found that all my power-operated signals are best worked in conjunction with the points, in some cases even when they are so sited that they cannot be said to be signals protecting the same.

A series of manipulations on the switchboard is required while trains are running from one point to another on the layout, and the controls should be so arranged that this can be done in proper order, and without undue hurry or searching for the required switches. If two or more of the required operations can be carried out by one manual operation so much the better.

The point motors on my layout are worked by a 25-volt supply, simply because when I made them the material on hand lent itself to this ; but the signal motors are those delightfully small double-solenoid affairs produced by Hornby. Double make-break spring-return switches are used to convey the necessary 25-volt and 12-volt supplies to these point and signal motors (diagram 2). At one point on the layout three lines converge, and therefore there are three signals but only two points ; only four switches are needed, however, for all the operational needs involved, as shown in the diagram. The signal motors here are housed in the lower part of the signal cabin attached to the small gantry, and operate the signals by rocker-arms.

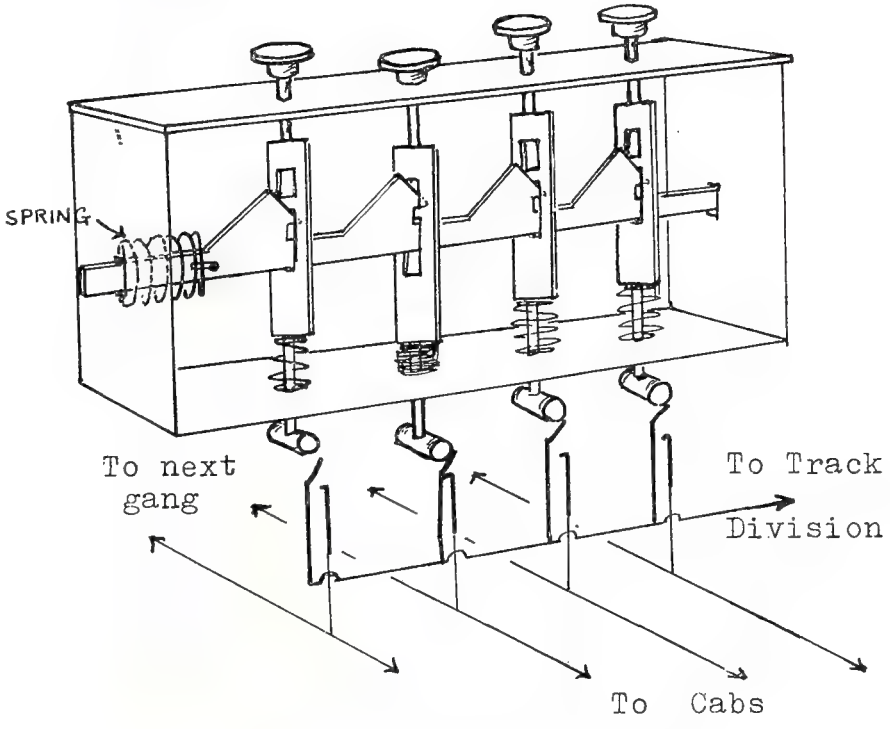


DIAGRAM 3

One of the gangs of switches, showing spring-operated locking and automatic release bar, and wiring.

SHERWOOD GOES SCENIC

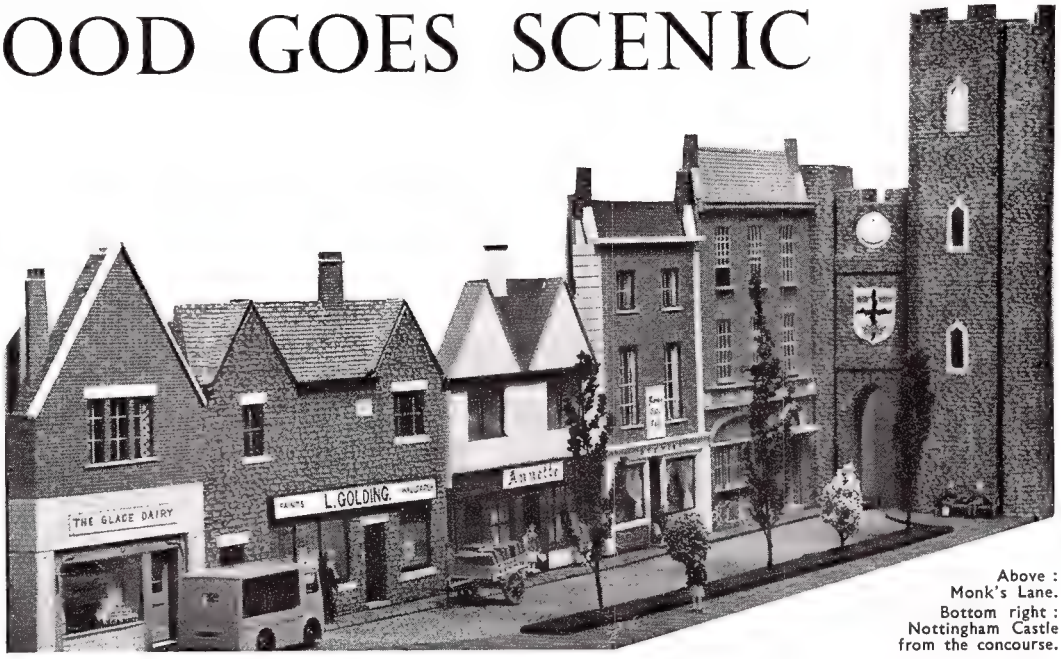
or

How we rebuilt Nottingham Castle

A Sherwood Gang Project

by N. S. Eagles

Photos by Philip J. Kelley



Above : Monk's Lane.
Bottom right : Nottingham Castle from the concourse.

"IT would have fallen down twenty years ago." With those scathing words from our works engineer and architect, Geoff Della-Gana, upon the design of the roof of Nottingham Castle station ringing in our ears, we took the fateful decision to rebuild.

The crisis had been precipitated by my wondering aloud if the time had come to discard the Pickfords warehouse which surrounded one of the roof supports of the loft and replace it by some form of medieval tower. After all, Pickfords had been the initial effort to disguise these supports and we had progressed far since those days. Alongside the Pickfords warehouse at the rear of Nottingham Castle station were a small paint factory and the Royal Hotel ; on the other side were two blocks of flats, the farther one again enclosing a roof support. Like most tentative suggestions on the Sherwood Section, this particular one was discussed by the operators and gradually a plan evolved. It would be possible to replace the paint factory and Pickfords by a street which could enter from the rear of the Royal Hotel and, passing behind the station, disappear through a medieval archway which could have a tower surrounding the four-inch by two-inch wooden upright which supported the roof of the loft. The road could incorporate some five shops, which need not be more than half an inch deep ; and the retaining wall of the station could be lowered to enable the street to be seen. At this stage Geoff said his piece regarding the roof.

As I think I have explained previously, it is our endeavour when rebuilding the layout in a new location to utilize as much as possible of the equipment of the previous line, and since we try only to expand the layout in a new setting, keeping to the same basic idea behind the line, much previous equipment is actually used again. Nottingham Castle had been a typical example. The general retaining walls and roof had been built in the mid-1930s for the second layout. Although the platforms and tracks had been altered each time, the roof, the roof supports and the retaining walls had been used on both the third and fourth layouts, so that these particular features remained as they had been built over twenty years ago. Of course, on a line like the Sherwood, much of the equipment, including rolling stock, must be of that age or more in spite of our continual effort to improve the standard. Geoff offered to design a roof that would really stand up to the job, and so the decision was taken to rebuild the roof, the walls and the background scenery of Nottingham Castle to bring it up to the present-day standard of the line.

The track layout has not been altered in any way ; it had been in operation for some ten years satisfactorily and there did not seem to be any real advantage to be gained by redesigning it. We realized that the work of rebuilding would take upwards of two years, and since we wished to keep the line looking complete as far as possible, for our own satisfaction as well as for the numerous visitors, it was decided that the maximum amount of work possible should be completed before the old station was dismantled.

For this reason the five shops were tackled first. Many articles have been written on the construction of shops and we followed the usual method. The first undertaken was an inn, which was made up from a kit from which valuable experience was gained. The other shops were made from scratch, the basic material for the front and rear being cardboard 2mm. thick with $\frac{3}{8}$in. square stripwood supports between. Windows have been cut out and glazed with mica and the shop-window displays have been built up from odd scraps of stripwood, dowelling and cardboard. The second shop is a café ; curtains in the windows are scraps of nylon net and a coloured view of tables and chairs cut from a monthly magazine is fixed at the back of each window. The next is an "arty" type of dress shop, the general appearance of the shop being *ersatz* Tudor. For the off-white walls we used the reverse side of an imitation-wood-grained wallpaper, while the beams are stripwood painted dark brown. In each window is a small figure in colour cut from a woman's magazine and fixed to balsa to give rigidity. The fourth shop is a wallpaper and paint merchants, and its windows are crowded with cans of paint and distemper made from odd lengths of dowelling. Partly unrolled pieces of wallpaper are cut from scraps from a coloured magazine. This shop is finished in a weathered stone paper, with a stone building date let in. On all the shops Slater's plastic doors were used to good effect. The last shop is a dairy ; the furled blind is made from odd pieces of wire and paper, while in the window is a tiny metal cow painted dark brown, with a large milk bottle from a child's toy and packets of butter (cardboard). This window display is quite reminiscent of the smaller dairies of twenty-five or more years ago. When building streets of this type, a careful study of an older shopping neighbourhood will reveal many different types of buildings, that may or may not be fitted with modern shop fronts, which will make excellent models.

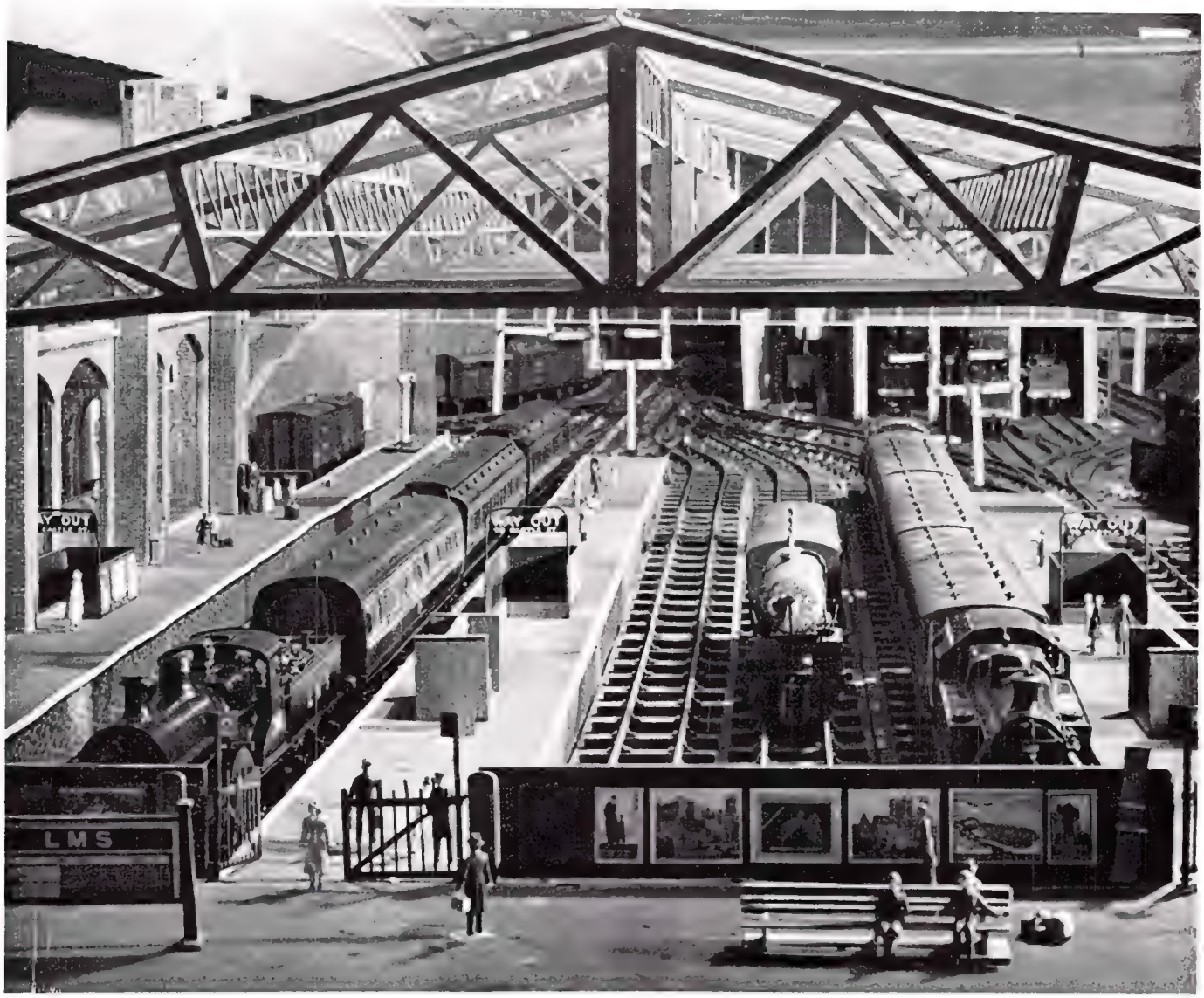
From the shops we came to the roadway. This is a piece of stout wood ; the piece we used is half an inch thick, supported throughout its length by battens to raise it some one and a half inches above the baseboard to enable a better view of the street to be obtained. The two pavements were cut to shape from the same 2mm. cardboard and were covered by Hobbies dolls-house slate-roof paper, which in "O" gauge gives an excellent representation of paving stones. The road surface was covered with Modelcraft 4mm. scale track ballast paper, while the grass verge was made from a length of sponge rubber dyed green in which were inserted three young trees and lilac and forsythia bushes in full bloom. These came from the United States, and the Sherwood's dollar reserves were depleted by their purchase!

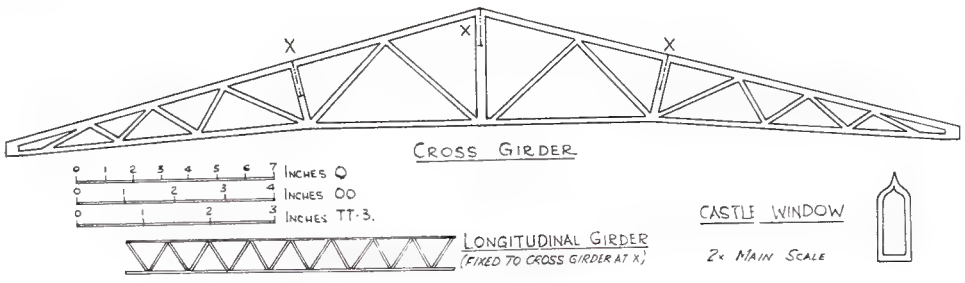
From the roadway we turn to the castle and gateway, by now definitely christened

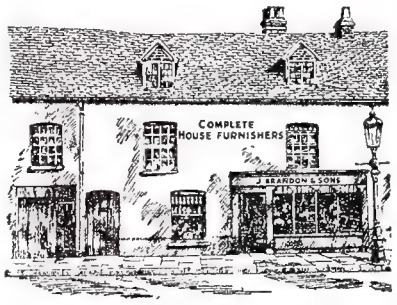
Monks Gate. The name was obvious from the beginning ; we already had a suburban station at Nottingham called Monksgate and an adjacent goods depot known as Monks Lane. A book on castles was studied and the design which we evolved was based on Cæsar's Tower, Warwick Castle. This was also made up from cardboard, the semi-circular part facing the track being a Vim carton cut lengthwise. The whole, tower and archway, is covered in stone paper with the windows cut out with a sharp knife. To ensure that all the windows should be alike, a brass template was made as in the diagram, and this was further used to cut out the stone surrounds for each from strong stone-coloured cartridge paper. The Nottingham coat of arms was drawn and painted in full colour and fitted just over the archway. This completed the street, which was all fitted together before any part of the old station was demolished. It can be seen in one of the photographs, which actually was taken on the dining-room table.

After the street (as we thought at that time!) had been completed, work commenced on the station proper. A new rear retaining wall was built and was divided by five piers into four sections, each about a foot long. The two left-hand sections which adjoin the circulating area are taken up almost up to the glass roof and are presumed to contain the luggage and parcels offices and porters' room. The windows are metal backed by mica and were put on the market about thirty years ago by the Miniature Reproductions Company; the doors are Slater's standard plastic. The other two sections are cut to represent arches so that through them a view of the street is obtained. One of the gang made up the railings from strip steel and these were painted Midland brown and fitted into these arches to protect the passengers and avoid spotters obtaining free entry to the station, while between the retaining wall and the castle tower is a gateway ostensibly to facilitate the loading of parcels and mail on platform 1 or the bay.

For the roof of the station Geoff well kept his word. He designed both the cross and the longitudinal girders as shown in the diagram. The five cross girders were cut from 5mm. three-ply wood and were quite a laborious job. The longitudinal girders (twelve of these were required) were made up from strip brass and all the girders were painted brown. The former were recessed into the tops of the piers and a small piece of strip brass was drilled and screwed to each side of these cross girders at the points where they would meet the longitudinal ones. This enabled the latter to be soldered into position on site and made a rigid job of the whole roof. The six pieces of glass which were lined out to represent panes and which had been used on the old station roof could then be laid into position. A visit to one of London's plastic suppliers brought to light a length of perspex 34in. by 6in. out of a scrap box at, what is more important, scrap price. This was cut to shape to fit across the end of the roof at the loco shed end of the







station and has been adorned by stripwood and fine strips of card painted grey to represent the lead between the separate panes. The Midland coat of arms was specially drawn and painted by Geoff to fit over the central panes. The general effect is quite clear in the cover photograph.

The platforms were a mixture of old and new. The very old ones had been cut and planed from solid wood ; the more recent ones had been built up from strip and plywood. Like the track layout, the shape of the platforms would remain unaltered, and we felt that the originals could remain as a base but be improved in appearance. They have been covered by a piece of 2mm. cardboard which slightly overlaps the edge of the platform and three coats of white paint were applied to the edges to form a white line. These card surfaces were then tacked into position (Peco "OO" ⅜in. track pins were used for this) and then lengths of fine grade emery paper just wide enough to leave a white line the whole length of the platform alongside the track were cut and glued into position. The emery paper does not readily glue flat, I used a thick cold-water paste and pressed it home hard with a wad of folded newspaper. Cloth pressed down tends to rub and leave irregular whitish marks, which the newspaper avoids.

At this stage the operators made another concerted attack on the general manager, who had originally planned that this would complete the work of reconstruction. They felt that the flats did not blend well with the old archway and tower, and furthermore the road just seemed to go nowhere. How right they were! So, once again following detailed discussion, it was agreed that the road should be extended through and beyond the archway, gradually rising to bear left and across the loop line from Oxton, and that there should be one more shop next to the arch before the road went uphill. The other roof support, at present encased by a block of flats, should be encompassed by a watch tower being joined to the tower already built by a town wall, which would abut the bay and replace the existing retaining wall. Yet again we went to it!

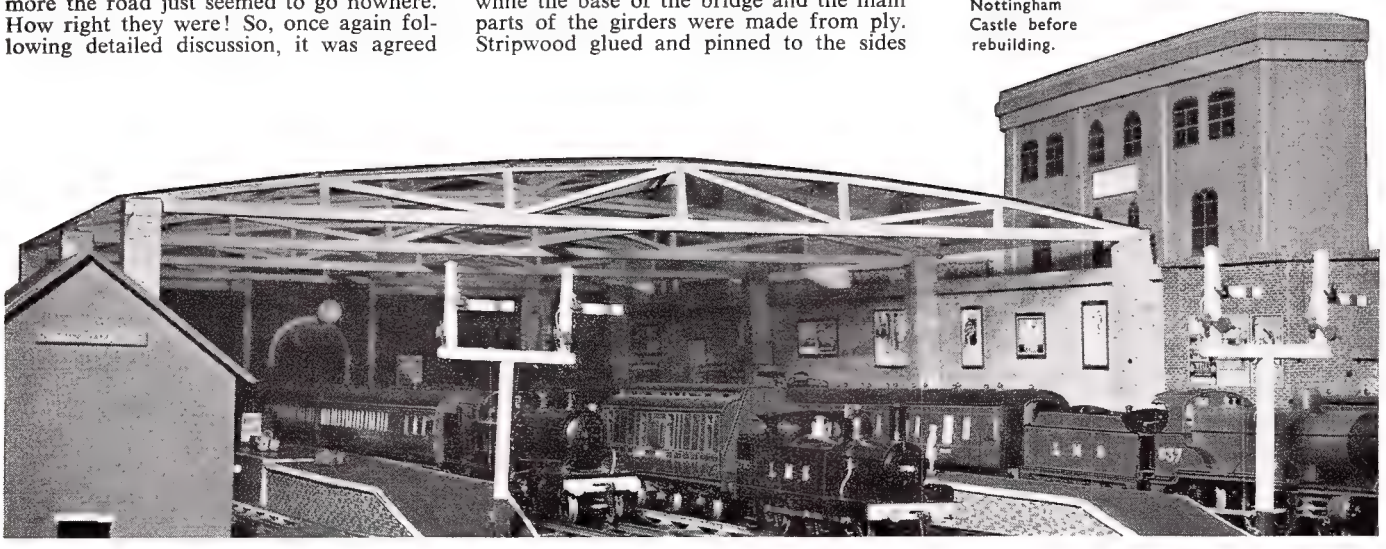
This time the shop was copied from a local newspaper advertisement which incorporated a drawing of the firm's original shop opened in 1896. This was much too much of a museum piece to miss. It was built in the same way as the other shops ; the dormer windows in the roof were built up from balsa stripwood, shaped with a sharp knife, while thin card and mica were used for the windows. The stucco effect was achieved by covering the building with wallpaper showing the pale cream reverse side. After fixing this wallpaper we covered the surface with thin glue and then applied a liberal coating of pumice powder, obtainable from the local ironmongers. After that had dried hard the surplus powder was shaken off and the result is quite effective. The kitchenware in one window was made from scraps of wood and cardboard, while the chairs, etc., in the larger window were coloured pictures cut from a woman's magazine and backed by card and balsa so that they stood firmly.

The rising roadway was again constructed from a half-inch-thick board, while the base of the bridge and the main parts of the girders were made from ply. Stripwood glued and pinned to the sides completed the girders, which were then painted grey. The town wall was built up in card with ⅛in. stripwood running the whole length along the top edge to give an impression of a thick wall. The wall was finished in stone paper with the top edge painted stone colour. As the wall needed to gain height gradually as the roadway climbed, it was thought that it should represent an old stone wall with stones cemented together along the top edge. Small pieces of tube painted red oxide were glued into position to represent drainpipes, from which a thin green line was roughly painted to indicate the algæ growth from the falling water.

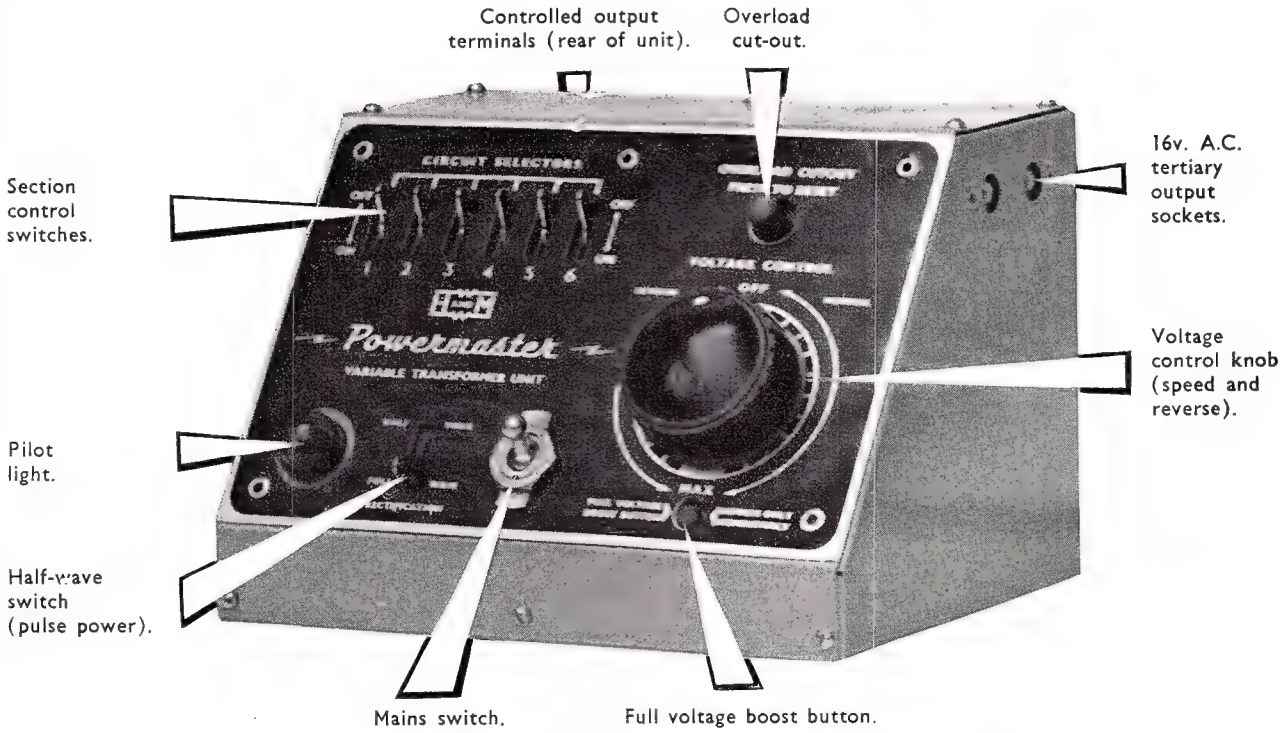
The watch tower was also built from cardboard, with half-inch balsa stripwood running round the top edge cut and shaped to represent the embrasures. This was finished to give the impression of a more modern stone renovation on an old stone wall. The doorway to the watch tower was specially made up and recessed and abuts the top of the roadway. The street was completed by the judicious placing of people—a carter leading a horse-drawn coal-cart, a builder's lorry of the late 1920 era, and a seat outside the castle wall.

Thus the work of rebuilding Nottingham Castle came to an end, just two years to the week from the date of starting. It had not occupied all my spare railway time during that period, but certainly quite a large part of it, and all this had resulted from my wondering if it were not time to replace a warehouse by a castle tower. But the result was well worth the effort!

Nottingham Castle before rebuilding.



INTRODUCING THE POWERMASTER



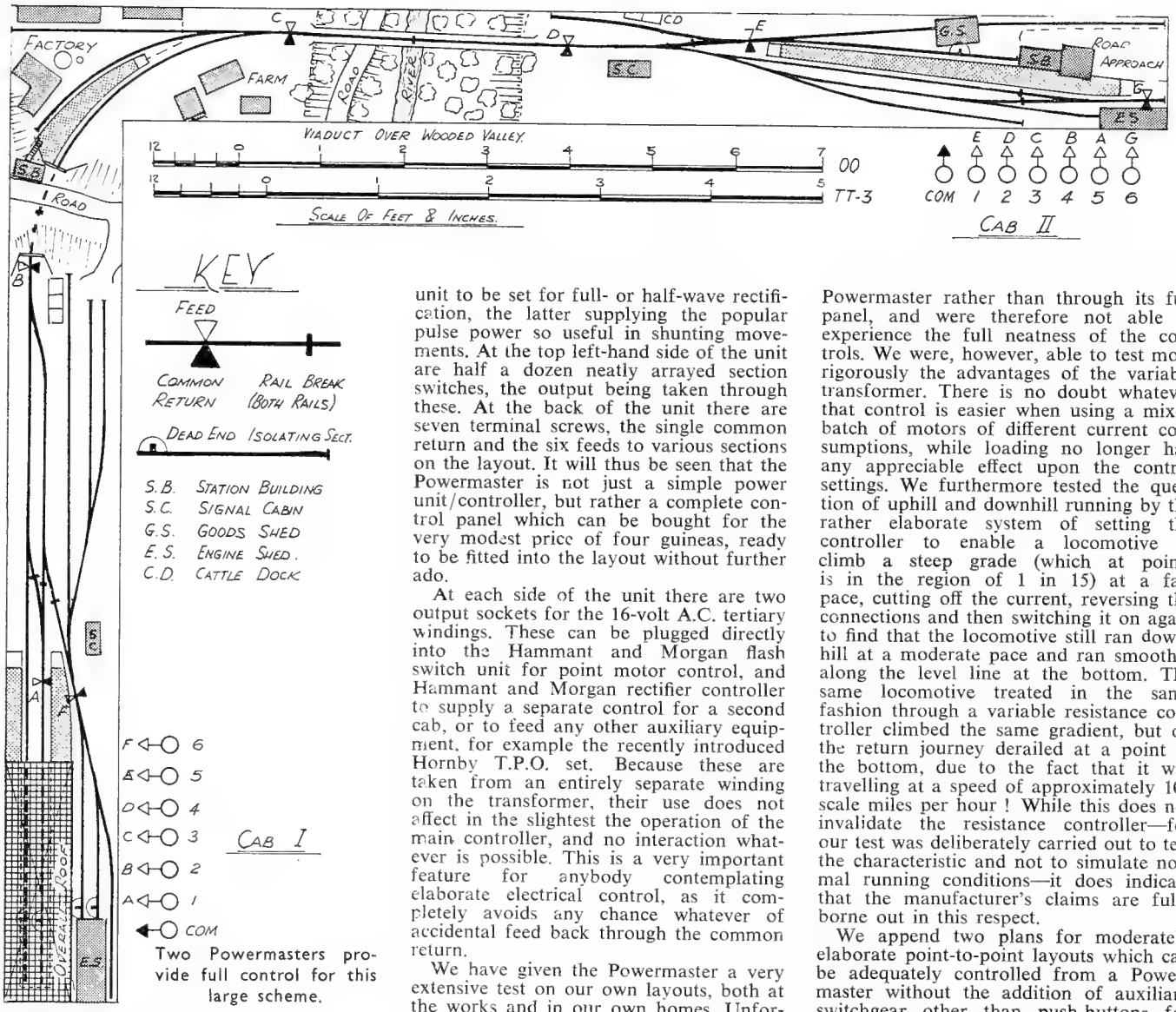
A POWER unit can be described very briefly as a box of mystery without which no electric model railway could function from the mains. Even an expert electrician cannot judge units from their appearance, while the layman is apt to become confused by conflicting claims and varying specifications. However, up till now all power units have worked on much the same principle, that is to say they contain a transformer and a rectifier to supply 12 volts D.C. at a specified amperage, this direct current being controlled and rectified either by an integral resistance/reversing switch or by a separate unit which can be readily attached by the purchaser. With these units it has been largely a case of selecting between the various fittings and finishes on any given output rating.

The Powermaster, however, breaks entirely new ground, for it incorporates a variable transformer and thus completely eliminates the variable resistance hitherto used to control the speed of our locomotives. To understand just what this means we must first realize that although our mechanisms are rated to run at 12 volts D.C., in normal conditions they do not operate at anything like this voltage, for we use the variable controller to drop the track voltage to a lower figure to make the motor run slower. The normal "OO" mechanism does in fact work from between 4 and 12 volts over its full speed range. This voltage difference is normally obtained by increasing the resistance of the controller, which accordingly takes a proportion of the output of the transformer and dissipates it in heat. With the variable transformer in the Powermaster, the selected voltage is in fact generated by the primary unit and this, and only this, is supplied to the track. Having explained this we should now go on to explain where the difference between the two control systems lies.

With the old variable resistance controller, the track voltage depended not on the resistance of the controller alone, but on the proportions between the motor and the controller resistances. As a result motors with a different current consumption required different settings of the controller knob for the same voltage output, and although they do in point of fact operate over much the same voltage range, the controller range was unduly compressed in the case of a high current consuming motor, or if a low resistance controller was used motors with a low current consumption were virtually uncontrollable. This, of course, is completely overcome by the Powermaster, which delivers a fixed voltage for a fixed control position. Nor is the matter quite as simple as this, for a motor does not possess a fixed resistance, as this depends very much upon the load placed upon it, and when this load is eased with a standard variable resistance control there is a tendency for the motor to speed up. This is particularly annoying on an undulating layout, as unless the train is carefully driven all the way round it is possible to exceed a safe speed on a relatively steep downgrade simply because of this tendency to overrun. With a variable transformer delivering a fixed voltage output this no longer occurs. The motor is limited to a maximum voltage set by the controller, and cannot therefore exceed its natural speed for this setting, no matter how much the draw-bar pull may change due to grade conditions. That in outline is the case for the variable transformer.

Turning now to the Powermaster in particular, we find that in addition to the variable transformer the unit possesses the largest number of useful refinements we have ever encountered in a single box. Starting from the input end, there is a heavy three-core cable giving full earth protection when correctly connected to a three-pin plug and socket, while the mains on/off switch is fitted conveniently in the front of the unit so that the power can be cut off at the switch panel rather than down by the plug, which on a permanent layout is usually fairly inaccessible.

The transformer has three separate windings, the primary mains winding, the variable secondary and the tertiary, whose sole purpose is to supply separate 16-volt A.C. output sockets for auxiliary equipment. From the variable transformer, which, incidentally, is rated at 3 amps, sufficient to power an "O" gauge locomotive or to operate a double-headed "O" train with full coach lighting, the supply is taken through a large metal rectifier to the reversing switch, which is connected to the



Two Powermasters provide full control for this large scheme.

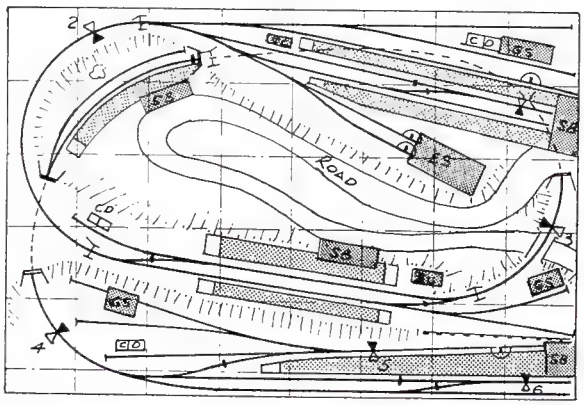
slider on the variable transformer, thus providing one-knob control. Above the control knob is a standard Hammant and Morgan cut-out to protect the unit in the case of accidental overload at the output side. Below this is a further refinement, a small push-button giving a full voltage supply across the output. This in fact cuts out the variable transformer slider and enables the operator to send a 12-volt pulse along the line to start a sticky locomotive, or to overcome the resistance of a dirty piece of track. For those whose layouts possess neither of these imperfections, this control can also be used to get a very slow start, for even the finest of locomotives usually requires a little more current at starting than when it is moving, so that if you know exactly what setting any individual locomotive needs for a crawl you can set the knob at this position, depress the boost button momentarily, and watch the train glide gently away.

Between the main switch and the pilot light there is a small switch enabling the unit to be set for full- or half-wave rectification, the latter supplying the popular pulse power so useful in shunting movements. At the top left-hand side of the unit are half a dozen neatly arrayed section switches, the output being taken through these. At the back of the unit there are seven terminal screws, the single common return and the six feeds to various sections on the layout. It will thus be seen that the Powermaster is not just a simple power unit/controller, but rather a complete control panel which can be bought for the very modest price of four guineas, ready to be fitted into the layout without further ado.

At each side of the unit there are two output sockets for the 16-volt A.C. tertiary windings. These can be plugged directly into the Hammant and Morgan flash switch unit for point motor control, and Hammant and Morgan rectifier controller to supply a separate control for a second cab, or to feed any other auxiliary equipment, for example the recently introduced Hornby T.P.O. set. Because these are taken from an entirely separate winding on the transformer, their use does not affect in the slightest the operation of the main controller, and no interaction whatever is possible. This is a very important feature for anybody contemplating elaborate electrical control, as it completely avoids any chance whatever of accidental feed back through the common return.

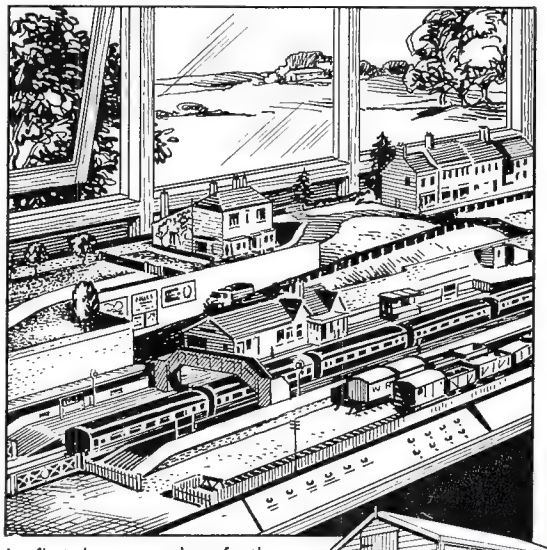
We have given the Powermaster a very extensive test on our own layouts, both at the works and in our own homes. Unfortunately, it was not possible, without ripping out a large amount of wiring, to use the unit fully as designed, as we found it necessary to retain our existing control panels, feeding the current direct from the Powermaster rather than through its full panel, and were therefore not able to experience the full neatness of the controls. We were, however, able to test more rigorously the advantages of the variable transformer. There is no doubt whatever that control is easier when using a mixed batch of motors of different current consumptions, while loading no longer had any appreciable effect upon the control settings. We furthermore tested the question of uphill and downhill running by the rather elaborate system of setting the controller to enable a locomotive to climb a steep grade (which at points is in the region of 1 in 15) at a fair pace, cutting off the current, reversing the connections and then switching it on again to find that the locomotive still ran downhill at a moderate pace and ran smoothly along the level line at the bottom. The same locomotive treated in the same fashion through a variable resistance controller climbed the same gradient, but on the return journey derailed at a point at the bottom, due to the fact that it was travelling at a speed of approximately 100 scale miles per hour ! While this does not invalidate the resistance controller—for our test was deliberately carried out to test the characteristic and not to simulate normal running conditions—it does indicate that the manufacturer's claims are fully borne out in this respect.

We append two plans for moderately elaborate point-to-point layouts which can be adequately controlled from a Powermaster without the addition of auxiliary switchgear other than push-buttons for controlling dead ends. The Powermaster is more than just another controller—it is a complete control board requiring nothing but wire to complete the electrification of a model railway.



A scheme for a solid base. Each square measures 9in. in "TT-3" (area 6ft. x 4ft.) or 12in. in "OO" (area 8ft. x 5ft. 4in.). Key letters as on large plan. Numbers on feeds correspond with Powermaster outputs. All black triangles connect to common.

NO ROOM FOR MODELLING ?



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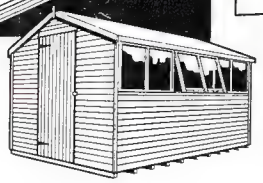

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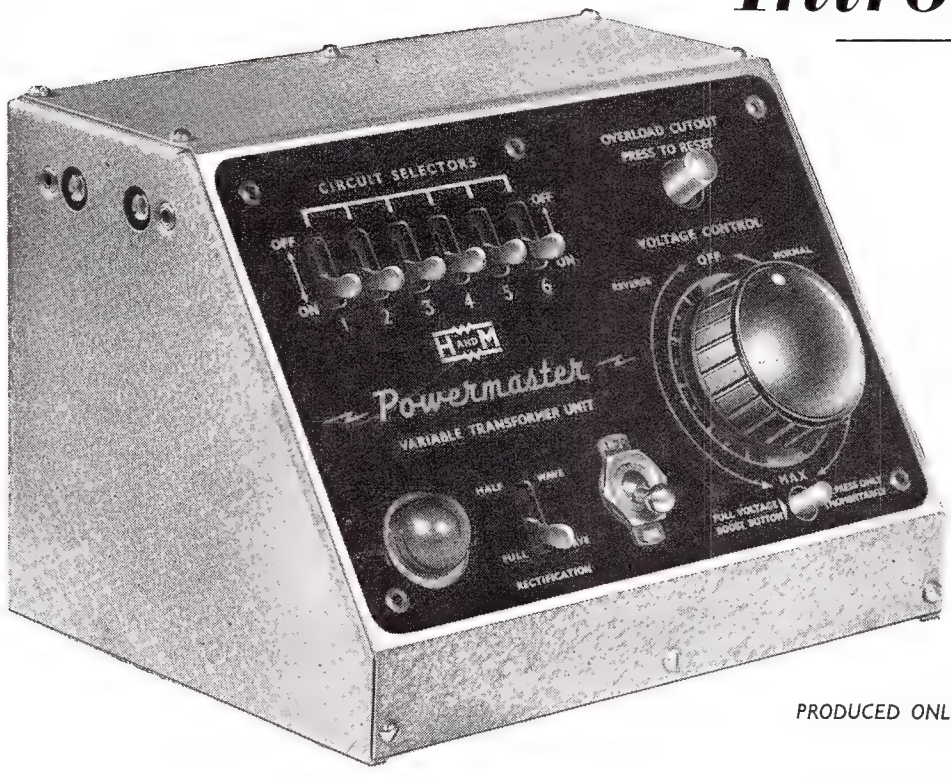

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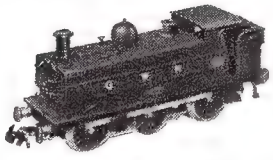

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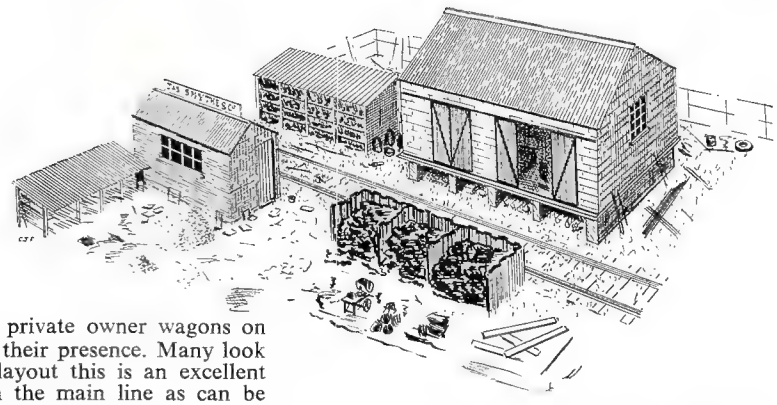
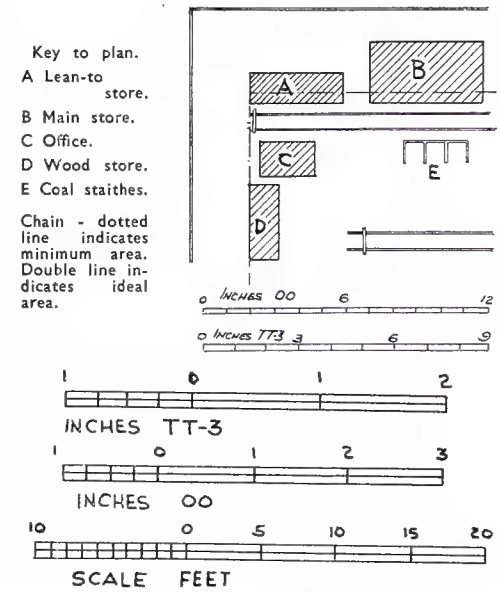


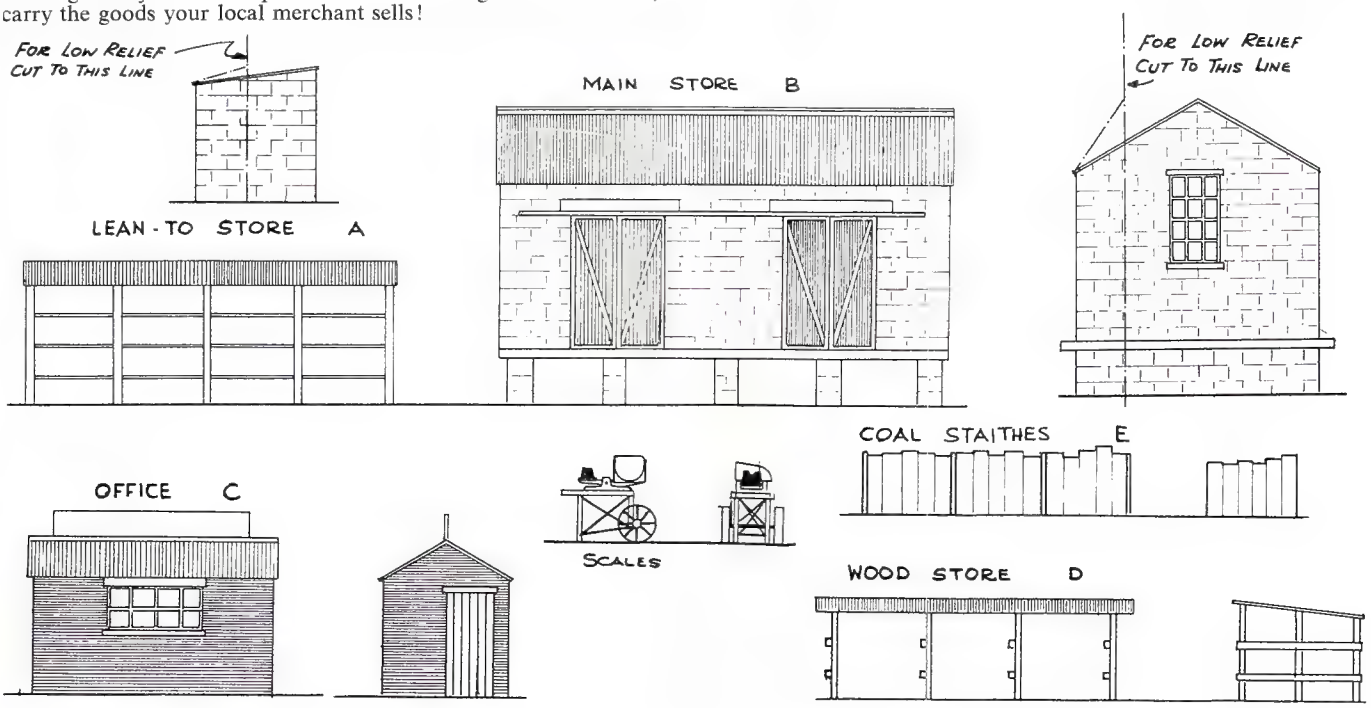
AS most modellers have examples of Peco Wonderful private owner wagons on their layouts, it is desirable to provide a reason for their presence. Many look towards the originating industries, and on a large layout this is an excellent idea, as it permits as many private sidings running from the main line as can be conveniently accommodated ; but where space is limited it is rarely possible to accommodate more than one or two industries at the most. Yet it is possible on the smallest of layouts to give a purpose for every type of private owner wagon simply by allocating a corner of the goods yard to a general builders' and agricultural merchants. Indeed, we will go as far as to say that no small country goods yard is complete without one.

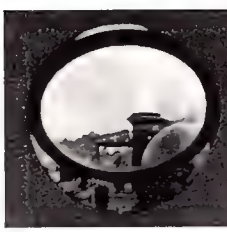
Our drawings are based on several local examples. It will be seen from the plan that an area roughly from 10in. x 9in. to 12in. x 14in. is needed for the yard, depending on whether low-relief or full modelling is desired. Only two proper structures exist—office, which we have shown as a brick structure but which could equally well be made of timber or even corrugated iron, and the main store, which is of concrete block construction with a corrugated asbestos roof. Only two walls are shown in elevation, as the building is identical on opposite sides. The two storage racks, which can be extended and duplicated if space permits, are simple structures covered in corrugated iron. The wood store consists of a number of pieces of $\frac{1}{16}$in. square balsa cemented together covered with sheets of corrugated iron, carrying further strips of balsa cut to length to represent the timber. The storage rack has a number of concrete block walls carrying timber shelving on which various lengths of pipe, tiles, chimney-pots, etc., are stored awaiting a purchaser.

The construction of these buildings would be from card or balsa, depending upon personal preference, suitable building papers being used to finish the walls. The coal staithes are constructed from card, balsa or, as in the prototype, sleepers. This can, of course, be extended if space permits. We have appended a sketch of a pair of scales used for weighing coal, as some form of weighing device is obligatory in a coal yard. The entire area of the yard, except for a few fairly narrow footpaths and driveways, would be covered in materials, heaps of sand, odd lengths of pipe and sheer junk.

No goods yard is complete without the wagons. Peco Coals, Minerals and Salts carry the goods your local merchant sells!







THE NARROW GAUGE LOOK

by Rick Green

Part III. By river bank and through fields

Above :
" By river bank " (1)

Right :
". . . round a little snick in a hill . . ." (3)

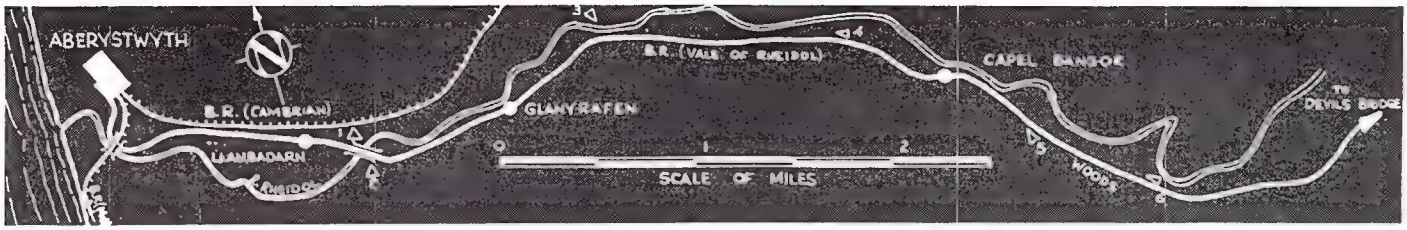
Numbers refer to arrows on map

Left :
". . . through beautiful woodland . . ." (6)

Below right :
". . . a mile of dead straight. . ." (4)

THE Vale of Rheidol Railway starts unobtrusively enough in a narrow, curving alley between the wall of Aberystwyth main station and that of the car park. Its route out does not do justice to that clean and pleasant town, but passes several readily modelable features—cattle market, bus depot, the little loco sheds, the overbridge of the branch that was the Manchester and Milford, well-tended railway allotments, then a view of the fine Welsh National Library and we are away, past the mixed gauge siding and the gasworks into Llanbadarn.

From Llanbadarn halt the train climbs



on to the trestle bridge which transfers it to the south bank of the Rheidol and we are on a pleasant stage of a journey which later becomes entrancing. To the south lies a belt of farmland backed by hills, while to the north the Rheidol indulges in a game of touch with the railway, giving us a pleasing alternation of rough pasture, gorse, gravel and river, with the train running freely along near-level stretches of slightly raised track past Glanyrafen, round a little snick in the tip of a hill which has pushed its way nearly to the river, and along a mile of dead straight, mostly level, with pasture on both sides.

A slight bend discloses Capel Bangor, with its long shored-up carriage shed, which reminds me of a gaunt Viking hall. The river is so close here that the shunt head is undermined and the place seems almost a ghost station, reduced to the status of a halt, its yard and once prize-winning garden overgrown, its weighbridge dismantled and taken away and now even its signal arms taken down.

Leaving Capel Bangor we pass close by the river for the last time, glimpsed through the gate of a farm crossing, and from here onwards the line will be tucked into the hillside as befits a mountain railway. Two farms are passed so closely that one could toss a biscuit through their windows, the woods close in on either side, the first real rise is encountered and the battle to gain height is on.

About a mile of climbing through beautiful woodland brings us to a level space beyond the Tylluyd crossing; this was Nantyronen, the original halfway watering halt.

The following dimensional notes may be of some help in modelling. All are from gauge, i.e. from the inner edge of the nearest rail, and distances to banks sloping up are at rail level.

On the curve round the scrub pasture the fences are 7ft to 8ft. out.

On the straight stretch the fences are 8ft. to 8ft. 6in. out.

At the crossing the sloping bank is at 4ft. 6in. and the near gatepost at 7ft.

In the woods the bank is 5ft. or slightly more out, the level on the downhill side being 5ft. 6in. to 7ft. or 8ft. Fencing here may be another 5ft. to 7ft. farther away, still downhill.

The fence itself is of 4in. x 4in. tapering to 3in. x 3in. concrete posts 3ft. 9in. to 4ft. 9in. out of the ground at spacing of 18ft., occasionally less.

The strands get closer together near ground level to hold in young as well as full-grown animals.

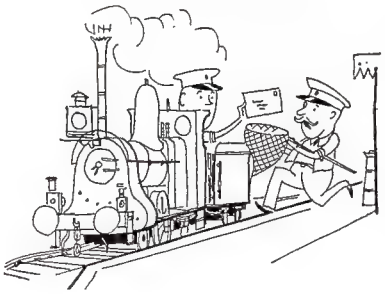
But wherever the track runs the twin fences accompany it; level with it, uphill of it or downhill of it, they are always somewhere there.

"From Llanbadarn halt the train climbs on to the trestle bridge..." (2)

"...glimpsed through the gate of a farm crossing..." (5)

READERS' LETTERS

A free-for-all forum of ideas and opinion



COSHAM STATION

I am wondering if the two enclosed photographs of Cosham station would be of use to you. Built and opened on September 1, 1848, this two-platform through station is on the Portsmouth—Southampton line of the old L.S.W.R. and besides dealing with all local trains is also called at by many through trains to and from Cardiff and the west. It is a typical L.S.W.R. station building and the details such as the small verandas and windows may be of use to modellers. The station serves the prosperous northern suburbs of Portsmouth.

P. NORRIS.

Ryde, Isle of Wight.

FRENCH—AS SHE IS SPOKE ?

I was most interested to read of your arrangement to supply the *Loco Revue*. In a technical journal of this type there are likely to be words which will tax the vocabulary of those whose French is of the schoolboy variety. I have therefore started work on a technical phrase book to help would-be readers of the *Loco Revue*, but meanwhile here are a few phrases in common use:

1. *La layout de Guillaume est sur la table* = Bill's gone "T.T."
2. *Robert est dans le jardin* = Bob's trying out his new gauge "1" live-steamer.
3. *Rien marche ici* = The —— fuse has blown.
4. *Le train est divisé* = Auto-couplings are a pain in the neck.
5. *Nom d'un nom, ma tête !* = This baseboard is too low.
6. *Nom d'un nom !* = This baseboard!*?!
7. *Ou est la plume de ma tante* = I must write to the RAILWAY MODELLER about this.

Hoping these will assist the student.

J. H. G. ALLISON.

Tividale, Worcs.

GRASS WANTED

I have dyed surgical lint various shades of green, thrown bird seed and ballast on brown paper and then painted it green, but I still cannot get what *I* consider a first-class reproduction of grass !

Is there not a manufacturer who could produce model grass on the lines of roofing felt, to be sold by the yard ?

R. E. BOWEN.

Plymouth.

Modelcraft supply a green flock paper, excellent for lawns, etc.—ED., R.M.

ANYTHING GOES

The other day my friend and I were "train-spotting" at Rugby Midland station, and we were delighted to see the lights turn green for a "main liner." However, we got a surprise, because the train, headed by Princess Coronation class No. 46224, "Princess Alexandra," consisted of one bogie coach and/or van and two passenger coaches.

This is further proof that anything goes, and it shows that Hornby-Dublo fans are sometimes right in running three-coach trains on their layouts.

R. C. WILSON.

Rugby.

TREES

A number of ways of making trees for "OO" gauge have been mentioned in the RAILWAY MODELLER, and all of them that I have seen cost quite a lot for each tree. Although the method below costs 1/6 for each tin of thick varnish paint, or 7½d. for a bottle of clear dope, an incredible number of trees can be made from one tin or bottle.

If you have asparagus growing in your garden, as I have, the very young plant, about 3in. high, dipped into a jar of *diluted* varnish paint to preserve its colour, with the stem painted brown, makes a realistic and cheap tree (clear dope can be used but the cost is more than that of varnish paint). If you have no asparagus growing near you, horsetail, a fir-tree-like weed, can be used, in its younger stage only, for poplar trees after being treated in the same way.

K. ROSS.

Reigate.

CONTACT WANTED

I would very much like to correspond with some model railroader in England.

At the present time I am a member of the U.S. Air Force and am stationed in Germany. My home is in Buffalo, New York.

My interests in model railroading centre around "HO" or 3.5mm. scale. Actually I am doing very little model building, but get most of my enjoyment out of arm-chair railroading.

ALFRED E. EHM.

66th Supply Squadron,
Flugplatz Sembach, Pfalz,
West Germany.

SOME COMMENTS

There are two items in the current issue of the RAILWAY MODELLER (July) about which I would like to comment.

First, it does not seem to be generally known that the plea for a 4mm. taxi has been answered (see "R.M." November 1956).

A model of the Austin taxicab has been put on the market by Messrs. Morris and Stone, under the trade name of "Esso," at a price of 1/6. This cab is correct to scale as far as I am able to ascertain and is complete with meter and driver, although the latter is unpainted, thus needing touching up before use on a lay-out.

The second item is the question of Tri-ang "Princess" conversion mentioned in "Advice Bureau." Although not a 2-6-0 chassis as mentioned in the article, I have seen an interesting conversion of the "Princess" loco to 4-6-0 Jubilee class. This was obtained by removing the trailing bogie, shortening the chassis and shortening the body by removal of approximately one inch between the front and centre splashers.

The resultant halves were trimmed to match up, the remaining halves of the

(Continued on next page.)

BOOK REVIEWS

BRANCH LINES, by O. S. Nock (Batsford, 25/-).

It is rather surprising to realize that, despite the considerable interest in branch lines that has been evident for years, this is the first book to deal with the subject as a whole. Perhaps the reason lies in definition, for just what is a branch line ? If we limit the terms of reference to short single-track feeders we do omit many lines which are essentially branch in character, while including some which are really main lines in every essential feature. It is indeed a pleasant game to decide where one draws the line, remembering all the time that the terms main and branch are purely relative and (as happened with the Falmouth and Penzance lines) may change with altered traffic needs.

Mr. Nock has very wisely made no attempt to catalogue every branch line in Britain ; indeed, merely to list them by name would take a book as large as this, though less profitable. Instead he has dealt at length with the whole purpose of branch lines, their origins, evolution and operational problems. He also makes a shrewd and substantially accurate analysis of the factors which lead to a branch failing to pay its way, while offering a suggestion, based on his professional experience of signalling, regarding means to effect considerable economies in operation of even quite extensive branches.

To illustrate his thesis Mr. Nock has selected a number of lines known to him, and although one might quibble because a personal favourite has been omitted, one finds in the collection some gems one did not know existed.

This book is of considerable value to all railway modellers, for it deals exclusively with railways which are capable of being modelled with a reasonable degree of fidelity. Indeed, while this is hardly a definition, it can serve as a means of identifying a branch railway.

ISAMBARD KINGDOM BRUNEL, by L. T. C. Rolt (Longmans, Green, 25/-).

It is surprising to find that this work is the first true appraisal of one who, more than any other man, typified his generation. More than this, Brunel was that rarest of all men, the universal genius, for there was little he could not achieve within the allied fields of engineering and architecture. Yet apart from his son's *Life,* published in 1870, and the memoir by Lady Celia Brunel Noble which appeared in 1938 no adult biography has appeared until now. Even the prolific Smiles omitted him from his *Lives of the Engineers*—a strange lapse which, as Mr. Rolt suggests, can only be accounted for because Brunel was apparently not a suitable object lesson in "self help," which is only superficially true. Admittedly his father was an engineer of renown, knighted for his work on the Thames tunnel, but although Brunel's first professional appointment was as his father's assistant on this, the first subaqueous tunnel of modern times, its completion was delayed until well after he had independently established himself as a leading engineer on the Great Western Railway.

Possibly the real reason why no biography has been attempted is that the subject is so vast, and to keep coherence in the narrative Mr. Rolt has divided the work into three separate sections, the first of which is devoted to Brunel's story up to the time he set up his establishment at 18 Duke Street, the second to his railway works, and the third to his shipbuilding and allied activities. Each section contains enough material to fill the average biography ; indeed, such was Brunel's prolific versatility that one could almost believe he was identical twins!

Naturally the major attention is given to the vast engineering works carried out by Brunel, but this is no mere recital of achievement or catalogue of works carried out. Mr. Rolt's aim is to present a rounded picture of the man himself ; his achievements are mentioned only because they are truly extensions of one of the great personalities of the Victorian era. Brunel was a man of great force of character and fantastic resilience, with tremendous courage, physical and spiritual, allied with true caution. He faced disaster throughout his life and until the very end rose triumphant above it. He died bringing forth his greatest single effort, the *Great Eastern,* a commercial failure perhaps, but an engineering masterpiece and perhaps the most manœuvrable of giant vessels, for it could turn on its axis like a ferryboat. It is ironic that another engineering marvel, the Suez Canal, robbed it of its real purpose, for it was never used on the Australian run for which it was designed. Yet had this been so, even with the canal cut, it might have altered history. Modern thoughts are turning to super-tankers to bring oil round the Cape more economically than through Suez—another vindication of Brunel's uncanny foresight, for with one exception, the atmospheric system, time has proved his so-called wild flights of imagination to be no more than intelligent anticipation of the next century's needs.

In preparing this biography Mr. Rolt has drawn extensively on the private papers of the Brunel family. As a result many new facts have come to light, particularly in connection with the *Great Eastern.* Indeed, these last chapters are of considerable importance, as they contradict, on excellent evidence, the generally accepted picture. In addition to this new material the book is noteworthy in its choice of illustrations, many of which have never before been published.

The cover carries a replica, in gilt, of Brunel's signature ; the book is worthy of this distinction.

(*Continued from previous page*)

nameplates were filed off and the body was joined by applying a soldering iron to the joint on the inside.

I am sorry that I cannot give any other details, but I saw this conversion when the "Princess" first came on the market —that would be, I think, about 1951—and over the course of time only the main facts have not been forgotten.

As to the "Princess" looking out of place on single-line working, there is an example of this in prototype practice—Barnstaple to Ilfracombe, normally worked by the through portion of the London—Ilfracombe expresses headed by Merchant Navy class or similar engines.

I hope these points may be of interest.

D. A. WARE.

London.

NEW QUARTERS FOR WAKEFIELD

The Wakefield Railway Modellers Section —with its parent body, the Society of Model and Experimental Engineers—has now moved into new quarters at the Unitarian Schoolroom, Back Lane, Wakefield. The society's exhibition will be held in the same building from September 30 to October 5 inclusive, and it is hoped to have **something** running during that week. The hon. secretary is Mr. T. H. Spink, 37 Leeds Road, St. John's, Wakefield.

NEWS FROM NEW ZEALAND

During the year the Christchurch Model Railway Club Inc. has enjoyed a full programme in all phases of model railway activity.

Very interesting demonstrations and lectures have been held, e.g. modelling scenery with plaster of paris, photography and the taking of photographs for modelling purposes, construction of lineside effects and lectures on signalling.

In addition members have gained valuable knowledge by field days held at loco depots, signal boxes, railway yards, etc.

Meetings of the club are held in the homes of members on the first Friday of the month, membership being strictly limited. The hon. secretary is Mr. L. E. Henry, 67 Ottoawa Road, Christchurch, N.Z.

KETTERING CLUB RECONSTITUTED

Kettering and District Model Railway Circle has been reconstituted and is now the Kettering and District M.R.S. Clubroom premises have been acquired at which it is proposed to hold meetings on the second Monday in the month and on more frequent occasions for work on the club layout. The hon. secretary is Mr. F. Asher, 56 Clarence Road, Kettering.

JUNIOR MODELLER

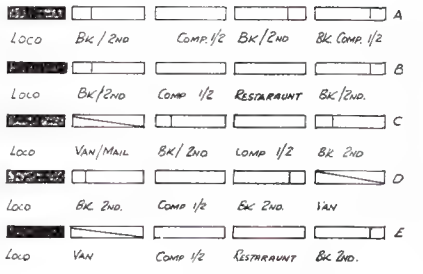
For beginners of all ages

TRAIN MAKE-UP

1. Express passenger

NOW that a wide variety of passenger vehicles is obtainable, the possibility of varying train make-up exists, and as this is one of the most fascinating sides of model railway operation some simple notes are indicated. We have limited the considerations in this article to short trains of four coaches, plus the locomotive, but even in this relatively restricted length quite a lot of variety can be obtained.

Example A shows a four-coach long-distance train with three coaches forming the main train and the final coach a through coach for a branch. It will be noted that this calls for a brake compo with first and second class seating. Although this is not available commercially at present, the addition of a "1" to one pair of doors on a standard brake second will produce the necessary vehicle. Train B is just about the smallest one can have for a named train, a brake second, a compo, a restaurant car and a brake second. However, if space is extremely limited and you wish to run a restaurant car a brake second and brake compo should be used in conjunction, as it is customary, indeed to a large extent compulsory, to have a brake van at each end of the train. Example C shows a combined mail train, or alternatively a mixed train incorporating a van, say for example for fish, parcels or milk. The same train going in the opposite direction is shown in D, except that it is rarely the practice to couple the main van at the end of the train. Example E shows a van used in place of a brake second to permit vans to be used on a four-coach set using a restaurant car. Needless to say, if space is available for longer trains, great variety can be attained in the use of vans, brakes and compos.



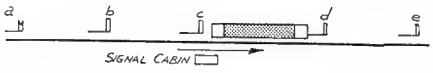
(To be continued)

SIMPLE SIGNALLING

1. Signals have names

SIGNALLING need not be a complex business on a model railway, even though it is far from straightforward on the prototype, for the modeller is really concerned only with the positioning of the signals and can, if he wishes, completely ignore the complexities of interlocking, block instruments, and cease to worry as to what is the box in advance and the box in the rear. Fortunately, the location of signals is fairly simple, as it follows a few quite elementary rules, but first we must know the names of signals.

Let us begin by considering a simple passing station on a one-direction single track. While this is a most improbable although not an impossible situation in actual practice it can occur quite frequently in the model. Moreover, it does eliminate all complexities from the basic signalling, which then stands out clearly. A simple station of this nature can have up to five signals, and these reading from left to right are (a) distant, (b) outer home, (c) inner home, (d) inner starter and (e) outer starter: the distant is a warning signal and is normally placed at least 1,000 yards in front of the home signal which governs it. This, of course, is usually an impossible distance in the model and it is therefore placed as far away as practicable. The two home signals are placed to stop a train before it enters the next section, which is supposed to begin at the home signal. The starter permits a train to be brought forward into the next section while this section is still technically blocked, that is to say the train ahead has not yet cleared it. With complete simplicity the two home and two starting signals are combined to a plain home and starter, but as in most cases the modeller desires to shunt beyond the platforms the outer signals mark the position of the shunt limits. Our diagram thus shows the sequence of the signals, but not their exact physical relationship, which depends very much on the requirements of the layout.



Where double track exists, this can often be regarded as a pair of unconnected, independent uni-directional single tracks, and thus the same sequence of signals will appear in the opposite direction.

(To be continued)

JUNIOR DO-IT-YOURSELF

VALLEYS

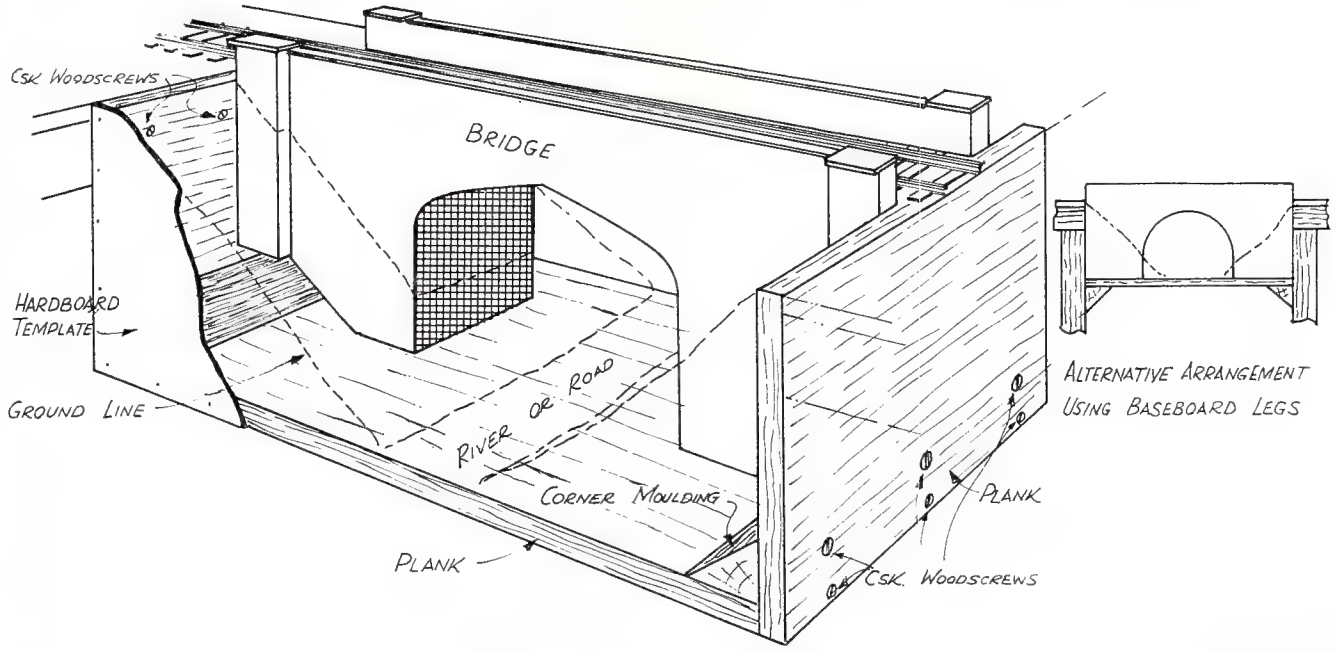
ONE of the most effective of model scenes occurs when a bridge is thrown across a deep valley, but many modellers avoid such a scene because they feel that it must involve gradients on the main line. Normally this would be so, as it is rather difficult to cut away a standard baseboard, but there are many occasions where a suitable bridge can be incorporated without too much trouble. The simplest of these is when a layout is built upon two separate main baseboards which can be connected together. If these are separated by a foot or so the intervening section can take the form of a valley with a bridge or viaduct crossing it. The other case, where the layout runs around the walls of a room, and the baseboard is not particularly wide, is only a development of this procedure, in that a short section of the baseboard is lowered in height and the track once again bridges the gap.

While the gap is not too large, the structural work involved is extremely simple. The valley is built up in a simple trough formed by screwing three lengths of plank together, the side planks being as deep as the required valley, say between six inches and a foot, and the bottom plank equal to the distance between the baseboards less the thickness of the two side planks. These planks are screwed together and a corner moulding is used to strengthen. Alternatively, if convenient baseboard legs are at hand, a single plank can be used to span the gap between the two baseboards. This is usually the case when a relatively narrow wall-hugging layout is in vogue.

Having produced the framework of the valley, the next thing is to build the bridge, or alternatively any of the attractive commercial girder bridge or viaduct kits may be used. If desired, the bridge may be constructed entirely from balsa with card sides and covered in the appropriate brick or stone papers as shown in Junior Do-It-Yourself for May. Once the bridge is erected it only remains to fill in the valley with a scenic picture. As the bridge must go over something, a river or road is indicated. The road can be painted direct on to the bottom plank; a river can be modelled with ripple glass painted green underneath, or by putting crumpled cellophane over the space to be modelled, the plank having previously been painted a dark green.

The profile of the valley is then cut from a hardboard sheet to cover both front and back of the valley boards, unless the valley abuts on to a scenic backscene, in which case only the front is needed. The valley sides must now be modelled from either plaster or lint and suitably covered to represent grass or earth. Shrubs and trees can be "planted" in the ground after it has been suitably painted.

This completes the actual modelling, but a scenic setting such as this is considerably enhanced by the addition of a little life—some cars on the road, or a man fishing in the river—for here more than anywhere else on the layout the railway is secondary in importance; it is the scenery that matters.



WAGONS AND THEIR USES

Ballast wagons

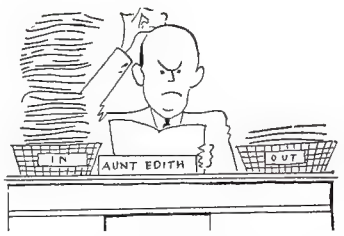
BALLAST wagons fall into three distinct categories, first the older short wooden vehicle, second the more modern metal wagon and last of all the large bogie hopper. The purpose of the ballast wagon is apparent, although the low-sided wagon is additionally used for other tasks than mere ballasting.

The hopper wagon is a comparatively modern innovation, and is normally to be found in short trains coupled to the special brake vans which are supplied with a large sheet-metal plough to spread the ballast evenly across the track. A model of one of these trains is perhaps a little ambitious for the smaller layout, but could be justified if one of the lineside industries were to be a railway-owned quarry supplying ballast for the entire system.

The smaller open wagon is more useful on the average line; indeed a single ballast wagon is often to be found in the station yard. Ballast wagons are not incorporated in the main stock, but are numbered separately in the engineering department lists. They are traditionally finished in entirely different liveries, and until the advent of B.R. were normally lettered "ED" with no sign of ownership! Today the usual livery for ballast wagons is dark green, and the code name Walrus is used. Ballast wagons are unique among mineral wagons in that the entire side drops so that the ballast can be shovelled out (or in) over as wide an area as possible.

ADVICE BUREAU

Queries should be addressed to the Peco Technical Advice Bureau, Pecoway, Station Road, Seaton, and should be accompanied by a s.a.e. and coupon on page xiv. We regret that we cannot prepare special designs for individual readers.



I have a Hornby-Dublo A2 controller. Is it possible to use this on a two-rail layout, and if so which terminal is connected to which rail?

Do B.R. diesel one- and two-car units operate on the L.M.R., and if so is there any difference from the E.R. sets? Do they require an outside third rail?

T.H., Worcester Park.

The Hornby-Dublo A2 controller can be used on two-rail layouts, the output terminals being connected one to each rail in the usual manner.

Standard B.R. diesel units operate at the time of writing on the Eastern, London Midland, North Eastern, Scottish and Western Regions, and apart from detail differences between various batches there is very little to choose between them. They do not require any third rail, as they are completely self-contained units.

I note that where the points are to be electrically operated the tie-rod should be attached to an omega loop. Can you inform me whether such items are commercially available, and if not what type of wire you recommend to make them from and where it is obtainable?

L.A.O., Tredegar.

Omega loops consist merely of a piece of wire with a reverse loop bent into it shaped like the Greek letter Ω. A suitable material for this type of spring loop is Mercontrol wire at 4d. per coil.

What will be the possibilities of single and double slips in "TT" gauge? I am a beginner as regards railway modelling, but hear that slips are rather tricky problems.

Will it be possible to run a Tri-ang "TT" loco from a Hornby-Dublo controller and transformer?

J.B.S., Churchdown.

We would not advocate slip points for a beginner, particularly in "TT." You have heard quite correctly that they are rather a tricky problem, and most people avoid them!

Tri-ang "TT" locomotives will operate off any twelve-volt D.C. supply.

I recently sprayed a model loco I have just made, using car type cellulose, i.e. undercoat, then black for the final coat. The appearance was very pleasing, but the cellulose had not adhered to the brass, and easily flaked off.

Can you please inform me how to treat brass so that cellulose will key to it?

D.J.H., Wetherby.

We have not had any great experience ourselves with cellulose paints, our own work being done with oils applied by means of a brush. However, no matter what paint is used there is no doubt that brass does tend to flake, there being two probable connected reasons why this can be severe. First and foremost, brass does have a rather greasy nature, and it is very prone to form a rather inefficient bond with paint unless all traces of grease are scrupulously removed by washing before painting in any reliable detergent, and subsequently rinsing and drying in a current of warm air.

This feature is accentuated if the finish of the brass model is highly polished before painting. We have noted this in many cases in unfinished models exhibited at the various shows, where it would appear that in some instances a considerable amount of work has been put in with a polishing rag and metal polish in order to attain a very high shine. Except for domes and safety valves this work is completely unnecessary, as a very highly polished surface is even more prone to paint chipping than any other. An excellent keyed surface for painting is attained if the model is assembled with an active acid flux. As you are probably aware, this flux does produce a certain degree of oxidization on the brass surface, and although the final finish can hardly be called rough it is certainly not highly polished and it does seem to form a key to which the paint will adhere.

Regarding cellulose generally, we would refer you to Mr. Taylor's final article on the "Bulldogs," which dealt with spray painting by cellulose, and which appeared in the June RAILWAY MODELLER.

WINDSOR & ETON *(continued)*

class is planned to be added to the branch, for excursion trippers wishing to see the waterfalls!

This, I am afraid, is a rather sketchy description of quite an interesting little layout which has given and is giving me a great deal of pleasure.

Finally, may I add some hints and tips?

1. The Tri-ang locos as supplied have a very low current consumption, and when used in conjunction with a Hammant and Morgan "Minor" power unit "jumped" on starting. This was overcome by wiring two twelve-volt car bulbs in series with the feed to the track. The locos now will run at really slow speeds and will start perfectly.

2. Invest in a really good electric soldering iron. I use a Wolf sixty-watt pencil-bit model. It cost me twenty-five shillings and has repaid me many times over. I might add that it must be earthed.

3. Modern adhesives, i.e. Evostik, Uhu, etc., are all a far cry from the old tubes of glue. They will bond metals, glass, wood, fabrics, etc., and can be used in place of solder for many applications. Uhu is excellent for bonding lead weights into plastic loco bodies.

4. Model locos and rolling stock (if you are a free-lance) can be altered tremendously by repainting. Use matt-type oil paints and preferably sable brushes. Spend plenty of time on it and don't hurry, otherwise you will spoil the job. And remember, two thin coats are better than one thick one.

5. "TT" gauge building sheets are slowly becoming available. Don't be afraid, however, to experiment with designs of your own. For example, if you wander around your own town you are sure to see several buildings worth modelling.

6. Although "TT" gauge is not too small, you will find the new scale different from "OO" gauge from the modelling point of view. It takes, I think, a short while to become accustomed to the smaller measurements.

7. If you own a set of power tools, use them. They are ideal for baseboard construction and for 101 odd modelling jobs. For example, I wanted to make a special type of factory chimney, and did so by turning on a portable electric tool lathe (Wolf Cub) and covering with stone paper.

THE OCTOBER "RAILWAY MODELLER" WILL BE PUBLISHED ON

SEPTEMBER 25

Late copy for this issue by return, please.

COPY FOR NOVEMBER must be received by September 25.

NEWS SPECIAL

THE STOP PRESS OF THE MODEL RAILWAY WORLD

From our Staff Reporters and Special Correspondents

TWO SHOWS OPEN THIS WEEK !

Falmouth and Leicester exhibitions feature West Country prototype

AN unusual coincidence occurs this week, when both the Falmouth and Leicester clubs open their exhibitions on the same dates : August 26 to 31—the Falmouth club in the Women's Institute, Weber Street, Falmouth ; the Leicester club in the Boot and Shoe Trades Hall, St. James Street, Leicester.

Furthermore, each exhibition features an authentic model of a Cornish prototype in 4mm. scale, the Leicester model being only half Cornish, as it took the form of a single span of the Royal Albert Bridge, Saltash, Brunel's swan song. We will, however, assume that it was the Cornish span that was modelled !

The Falmouth club has been hard at work on an accurate model of its local terminus, complete with its fine Brunel-type timber roof. Just as the model reached completion the Western Region decided to modernize the station and replaced this magnificent structure with the more utilitarian concrete awnings favoured today, and sadly the club set about replacing the glorious structure seen in the lower photograph to bring its model up to date. In addition to this layout the club is also exhibiting its earlier "OO" system, described in the May 1955 RAILWAY MODELLER.

This superb model of Brunel's Royal Albert Bridge is a prominent feature of the Leicester club.

The Leicester club's exhibition provides a real choice of layouts, an "O" gauge stud-contact system, an L-shaped "OO" system incorporating the single span of Saltash Bridge, and George Reffin's latest Tidewater and Southern—the line described in April 1956 has now been completely dismantled and a new system has arisen, phœnix-wise, from the ashes. In addition the Hornby-Dublo exhibition layout will be present.

Whether you are in the Midlands or holidaymaking in the West Country, you have a chance of visiting a really worthwhile exhibition.

MORE TRI-ANG DIESELS COMING

Further uses for motor bogie

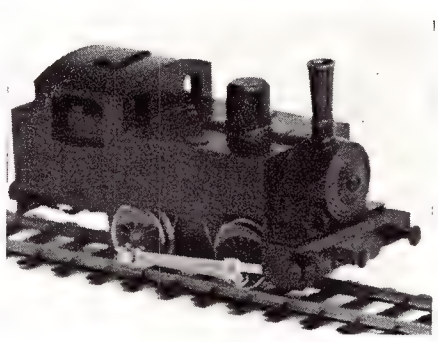
WE hear from Messrs. Tri-ang that further interesting models are on the way incorporating their excellent new "OO" gauge motor bogie. For British layouts there will be a lightweight twin-car diesel railcar set, while the Transcontinental range will include another diesel loco, this time a New Zealand prototype with double end cab.

Falmouth station in 4mm. scale : a fine joint effort by the local club.

RIVAROSSI DO IT AGAIN!

Economy locomotive a winner

FOR only 39/6 you can have a first-class locomotive ready to run on 16.5mm. gauge B.R.M.S.B. and N.M.R.A. scale or universal two-rail track. The new Rivarossi continental style 0-4-0 is a real winner, and although not strictly to British design could be used on any free-lance or industrial line.



Simple and neat : the new economy Rivarossi 0-4-0.

The mechanism incorporates the famous Rivarossi motor, which is one of the most powerful on the market, as well as the largest. The chassis and the main footplate are a single unit, the body dropping on and being held in place by a screw which passes up into the metal top of the chimney. This can be unscrewed in the hand, thus enabling the operator to oil the mechanism with the least amount of bother.

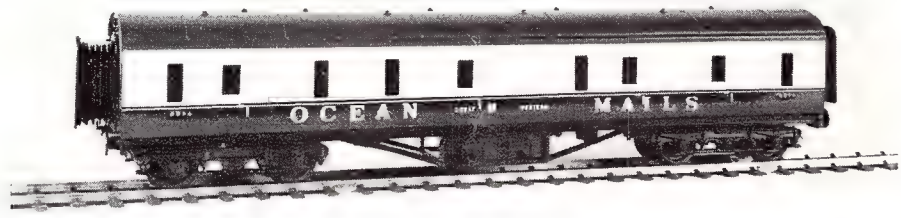
This is a real utility model, and is completely devoid of frills. This, however, can be construed as an advantage, for it leaves plenty of scope for the keen detail fan, who can soon cement his own pet fittings to the body, perhaps going so far as to reconstruct the simplified motion and cylinders. It must be pointed out that the body has full rivet detail and the footplate front is made of "chequer plate," so the model can hardly be regarded as bare.

We would suggest that the addition of some lead would be an advantage, for the model is slightly lighter than customary, and will haul only a reasonable load. The extra ballast enables it to haul almost anything the modeller likes to hitch behind the drawbar!

We have no hesitation in recommending this excellent model to anyone looking for a good, cheap locomotive.

RETURN OF A FAVOURITE

Exley Ocean Mails back again



WHEN the new range of Exley coaches came on to the market earlier this year the G.W. Ocean Mails van was omitted. Public demand was such that its reintroduction was essential, and as a result a new version has been produced, complete with full door detail. The finish and quality are all we have grown to associate with the name of Exley. We need hardly add more, except to say that the price, complete with bogies, is extremely reasonable.

A STICKY BUSINESS

A FEW months ago we were supplied with a sample of Evostik with the suggestion that we should probably find it of considerable value around a model railway. Careful trials under stringent conditions suggest that this was, if anything, an understatement.

Evostik is an impact adhesive, and while it can be used in the normal manner it is best employed according to the manufacturer's instructions (what material isn't ?). Both surfaces to be joined are thinly coated with Evostik and left at least half an hour to become tacky. Then the two parts are brought together in their correct positions, pressed firmly home and held for a short time. The bond is then complete, though it hardens completely over about 24 hours. It is important to ensure that the parts are correctly lined up before pressing home, for so quick and firm is the bond that it is virtually impossible to have a second try.

We have used Evostik extensively on a variety of modelling projects. It is particularly useful for securing ballast underlay to softboard, for it is dry enough to work on within 30 minutes, while the adhesive is not absorbed by the insulation board to any great extent, and is thus most economical. We have also secured rail to fibre sleepers with it, and used it to cement polystyrene parts. A word of warning here : the solvent does affect most plastics, and careful application is most essential.

We can thoroughly recommend Evostik, an invaluable addition to the modeller's armoury of modern adhesives.

EXPRESS DELIVERY

This attractive van is now used by Southgate Hobbyshop to make direct deliveries to customers in the London area.

MORE GEM "TT-3" PRODUCTS

Curved point and uncoupling rail

GEM have just introduced two useful additions to their Flexi-trak system. First of all comes a useful curved point. With an outer radius of 24in. and an inner radius of 12in. this handy fitment will extend the range of the "TT-3" modeller. The cost with lever mounted is 16/6, without the lever 12/6. The turnouts are made from nickel silver F.B. rail on a fibre base and are laid to "TT-3" two-rail universal standards. Two points of opposing hand (or one curved and one straight point of opposing hand) can be used to make a crossover on a curve.

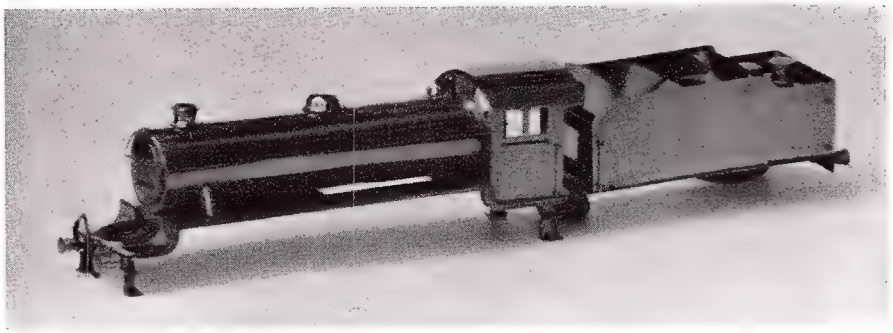
Second there is the new uncoupling ramp, a short length of standard "TT" track fitted with an unobtrusive celluloid ramp for uncoupling the Tri-ang autocouplings. The action is perfectly straightforward : the wagons are pushed over the ramp until the couplings lie over the unit, which lifts the strikers, thus uncoupling the vehicles. While the train is being pulled over the unit the locking groove on the couplers is engaged and the strikers depress the springy celluloid, the train remaining coupled.

Both items are recommended.

The Teesside Society of Model and Experimental Engineers is holding an exhibition at the Town Hall, Middlesbrough, during the week commencing Monday, September 23. Main features will be the club's own 4mm. scale layout and a 7mm. live steam railway.

JAMIESON KIT EASILY ASSEMBLED

A boon to the loco constructor



TO say that the latest Jamieson kit for an ex-L.N.E.R. Thompson K1 2-6-0 locomotive and tender body falls together is perhaps an exaggeration, but certainly there is little difficulty in soldering the accurately cut and shaped parts together to produce the neat, attractive body shown in our illustration.

The kit is complete in that all parts required are included, though the handrails are supplied in the form of a coil of wire and a number of split pins and are in no way pre-formed. Moreover it is necessary to drill the holes for the split pins, which, we feel, is rather unfortunate, as the accurate drilling of tiny holes is not altogether an easy task, yet any inaccuracy in the handrail fixings does spoil the finished appearance. Apart from this one point no difficulty was experienced in satisfactorily assembling the kit.

This kit will not only provide a quick way of building what is in effect a completely hand-made locomotive, but offers the novice an easy introduction to the craft of locomotive construction, for the parts are ready cut and bent, leaving only the actual assembly to be done by the enthusiast. While a kit of this nature lacks the speed of assembly of the true "screwdriver" kit, it has many distinct advantages, not the least being the satisfaction one gets from "doing it yourself," while the fact that the model is built from brass and nickel silver enables detail modifications to be carried out without difficulty.

The kit is also available in partially assembled form, while main frames and chassis kits to suit can be purchased. The prototype is a most useful one for the model line, a small mixed-traffic engine suitable for anything from light expresses to pick-up goods work.

TAXI!

Readers' plea answered

SEVERAL readers have been calling "Taxi!" for years, and at last the call has been answered. The Esso series of miniature cars includes, with the ominous number 13, a neat model of an Austin taxi, complete with driver, taximeter and space for luggage. A careful check indicates that the scale is approximately 3½mm. to the foot, which is close enough for all but the absolute purist, whether he is working in "OO" or "TT-3"! At the modest price of 1/6 there is no need for any model taxi rank to remain empty any longer.

These models can be obtained from most suppliers, but in case of difficulty the Liverpool Model Shop, which kindly supplied us with a sample, will forward one by post for 1/9.

BACK AGAIN

Loco Publishing Co. photos available once more

WHEN the Locomotive Publishing Co. was acquired by the Ian Allan organization earlier this year many enthusiasts hoped that this heralded the return of the famous series of photographs, perhaps the largest collection of historic prints in the country. This hope has been realized, and the first catalogue has now been issued, covering some 5,000 of the 25,000 subjects available.

The catalogue, which costs 2/-, covers the original F. Moore series and the Bleasdale collection. The majority of the subjects are locomotives, and these are classified under owning company, and class and the angle of view is indicated. Many are broadside views, useful for the locomotive constructor. The prints can be obtained in several sizes, from 2/6 upwards. We would recommend that modellers obtain one of the larger prints rather than the conventional postcard, which is really more suitable for the collector.

The publishers are prepared to permit bona-fide authors to inspect the collection with a view to selecting prints.

SHORTIES

Peco are producing a spoked nylon wheel for "TT-3," and this should be on the market in early autumn. This foreshadows the often requested range of "TT-3" gauge wagon kits, which are now in course of preparation.

Also in an advanced stage of preparation are Peco spiked track diamond crossings and Y points for "OO" prototype and universal and "TT-3" universal tracks, once again in popular-priced kit form. Full announcements will be made when these products are ready.

Although Godfrey Models of Worthing reluctantly had to close as a result of the sad death of the proprietor, we hear that the closure is only temporary. The company is being reorganized and will reopen shortly in new, larger, more centrally situated premises.

Walker and Holtzapffel have added metal disc wagon wheels to their "TT-3" range of components. Insulated, of course.

The Merit range of accessories now includes telegraph poles and fencing, moulded in polythene. This is a very suitable material, as these delicate parts are easily caught in the sleeve and polythene just bends!

Modelcraft building papers are now being printed on a rough surface paper, thus enhancing still further the realistic effects obtainable with these popular aids to building construction.

It is perhaps not commonly realized that the standard Peco spiked track point kits can easily be assembled to form other than standard R.H. and L.H. turnouts, such as points on a curve, by simply cutting the ties between the sleepers on one side only and suitably adjusting the base and location of the rails.

We have inspected samples of the latest Hornby-Dublo main-line coaches finished in the new, attractive B.R. livery, bringing their range right up to date. Nevertheless, as most enthusiasts know, the new colours are virtually the old L.M.S. livery, and thus pre-nationalization modellers can effect a simple conversion with a set of transfers!

Bassett-Lowke send us a catalogue of their ship plans and fittings. Many plans are for ⅛in. scale, and could therefore be used with either "OO" or "TT-3" layouts without too much difficulty. A selection of useful fittings in this scale is also listed, and is worthy of study by the modeller.

Personality Parade No. 69

L. F. Barham

LEONARD FISHER BARHAM, during his days in the Navy, had a shipmate keen on building model galleons, and this started him off on the model bug. Taking over his father's cycle and toy business after the war, he soon started a model section. He formed the Falmouth Model Club (now yachts only), the Falmouth Model Engineering Society and the Falmouth Model Railway Club. He is chairman of the Model Engineering Society and is a keen builder of power aircraft, motor torpedo boats and hydroplanes. His first love, however, is model railways and he has always been the secretary of this club, mainly concerned with the planning, designing and "foremanizing" which he considers essential to any well-run club. He is also chairman of the Falmouth Chamber of Commerce and a keen Rotarian, which enables him to have good liaison with the right people when the club needs favours. This was of particular help when the members were building their model of Falmouth station, for they were allowed to roam practically at will. His own "OO" gauge layout caused "housing troubles," so he built a shed in the garden, where he now "lives" with his ten-year-old son.

CLUB NOTICE BOARD

CONFERENCE TIME AGAIN

The seventh annual conference of the M.R.C. and M.M.R.S. will take place at the Imperial Hotel, Birmingham, on October 6, and other clubs are cordially invited to send delegates to this most important social and business gathering (not forgetting to bring a model with them!). Intending visitors should write to Mr. D. A. Boreham, 10b Ealing Road, Northolt, Middx, stating whether lunch is required, so that the necessary facilities can be provided.

S.L.S. TO RUN WELSH CENTENARY TOUR

Saturday, October 12, marks the centenary of the opening of the Usk-Monmouth line, and although this section is now closed completely the S.L.S. Midland Area is negotiating to run a centenary special train on that day from Pontypool Road to Monmouth.

EAGLES AT IT AGAIN!

Film shows have long been popular features with the Model Railway Club. This has been largely due to the careful attention paid by our deputy chairman (who has the job, inter alia, of organizing these nights) to the selection of films being presented. We are looking forward to another of these evenings on September 19, and on this occasion the show has been arranged with the co-operation of the B.T.C. Visitors are always welcome to our meetings and further particulars of the club can be obtained from the hon. secretary, Mr. D. A. Boreham, 10b Ealing Road, Northolt, Middlesex.

CLEARING HOUSE FOR IDEAS

The North Middlesex M.R.C. feels that there is too little interchange of ideas and information between modellers.

As a first step towards improving the situation, this club invites parties from other clubs to visit its headquarters to see how it does things and to compare notes. Such meetings can be arranged for any Wednesday evening during September. Any club interested should contact Mr. J. A. Vincent, 48 Strafford Road, Barnet, Herts, proposing a convenient date.

SETTLED IN!

The Merseyside Model Railway Society is now well and truly installed in its new premises at 102 Chester Street, Birkenhead. The modeller is well catered for in 16.5mm., "EM" and "TT-3" gauges, as well as 9mm. narrow gauge. A first-class library is available and reference can be made to a large number of model railway magazines and books.

Now that there is so much space available —six rooms—the committee has decided to include in the winter programme two talks per month, the extra one to be in the form of a lecturette and to have a more practical application. It will take place at 102 Chester Street. The main monthly talk will still continue to take place at the Grenville Cafe, Tithebarn Street, Liverpool (opposite Exchange station).

Each month members receive a copy of the society's magazine — "The Merseyside Express"—a magazine that is full of railway news and views and has something of interest each month.

If you are modelling alone and live on Merseyside, why not avail yourself of the first-class facilities which this society provides? The committee invites anyone to any of the society's meetings, especially to the annual general meeting on September 18, when you will hear a report on the year's events and be able to meet the committee, new and old.

Metings are held every Friday night at 102 Chester Street, Birkenhead, from 7.30 onwards, and once a month at the Grenville Cafe, Tithebarn Street, Liverpool.

All inquiries should be addressed to the hon. secretary, Mr. A. L. Eagles, 38 Silverdale Road, Bebington, Wirral.

PROGRESS AT BOGNOR

The Bognor Regis Model Railway Club's "OO" gauge layout is progressing well, and it is hoped that other clubs will be able to visit the club during the coming winter season.

Visitors and prospective members are cordially invited to visit the club's headquarters at the rear of the Railway Hotel, Barnham.

Full details of membership can be obtained from the hon. secretary, Mr. L. Dyer, "Melrose," Charnwood Avenue, Bognor Regis.

NORTH LONDON RAILWAY SECTION REBORN

The miniature railways section of the North London Society of Model Engineers, one of the first clubs to exhibit a two-rail layout, lapsed several years ago. We are happy to report that since its reorganization a year ago considerable progress has been made with the new layout, which occupies a space approximately 14ft. x 12ft. in the club's headquarters at Barnet. Prospective members should contact Mr. John M. Eggson, 20 Gallants Farm Road, East Barnet, Herts.

CLUB CALENDAR

September Meetings

Edinburgh and Lothians Miniature Railway Club
17—Lecture, "Signals and signalling," by a British Railways technician.

Tramway and Light Railway Society
14—"Tramcar trucks." R. Elliott.

Historical Model Railway Society
23—"The North London Railway." A. P. Hancox.

Bolton Model Railway Circle
11—At 39 Rowena Street, Bolton.

Hoddesdon and District Model Railway Society
4—Running night.
11—Visit to C. Pawsey's railway.
18—Layout construction.
25—"Trackwork and its foundation"—1. D. Bath.

Birmingham Model Railway Club
12—Open meeting.
18—Track night.
26—"Railways in West and East Dogger." Messrs. A. L. Duff and G. R. Driffield.

Model Railway Club
5—Track night (L.N.E.R.) at Hammersmith.
19—Film show at Caxton Hall.
26—Track night (G.W.R.) at Hammersmith.

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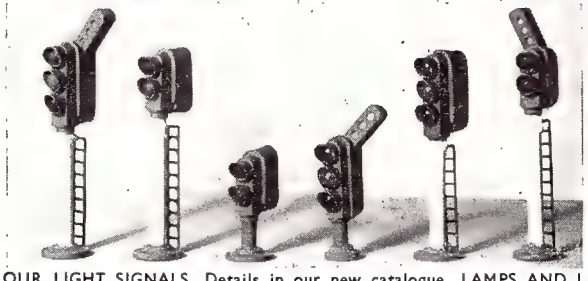

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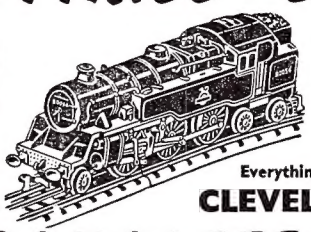

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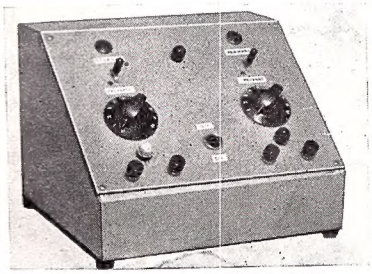

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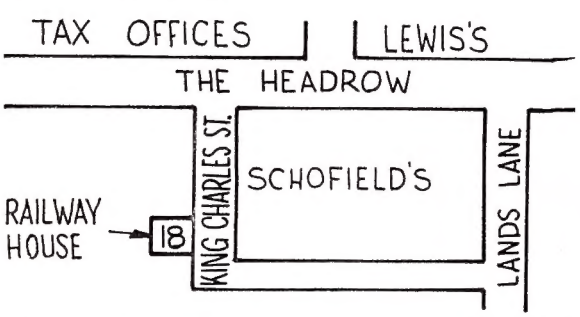

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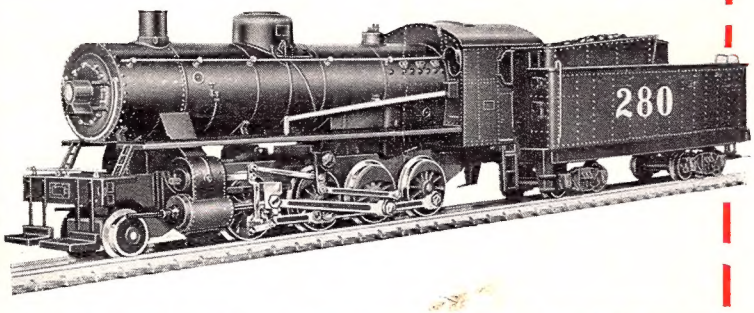

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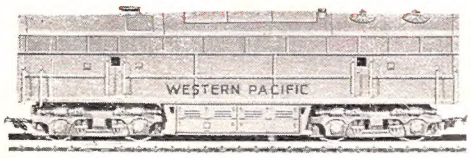

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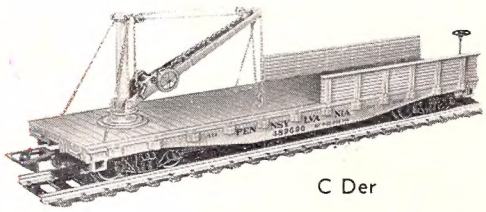

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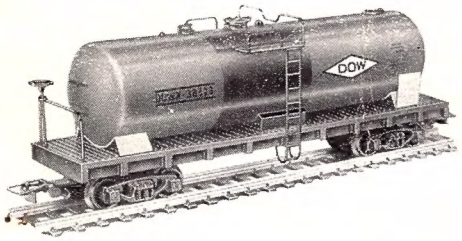

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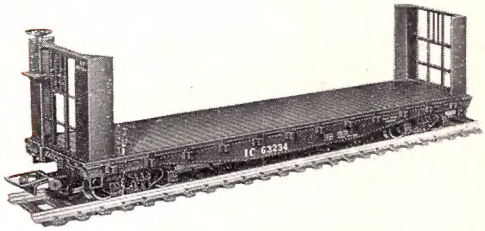

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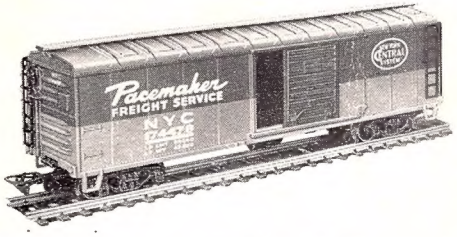

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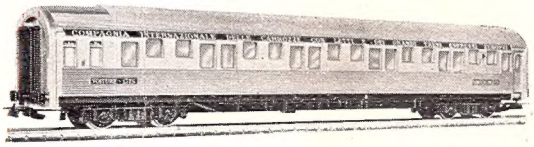

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